

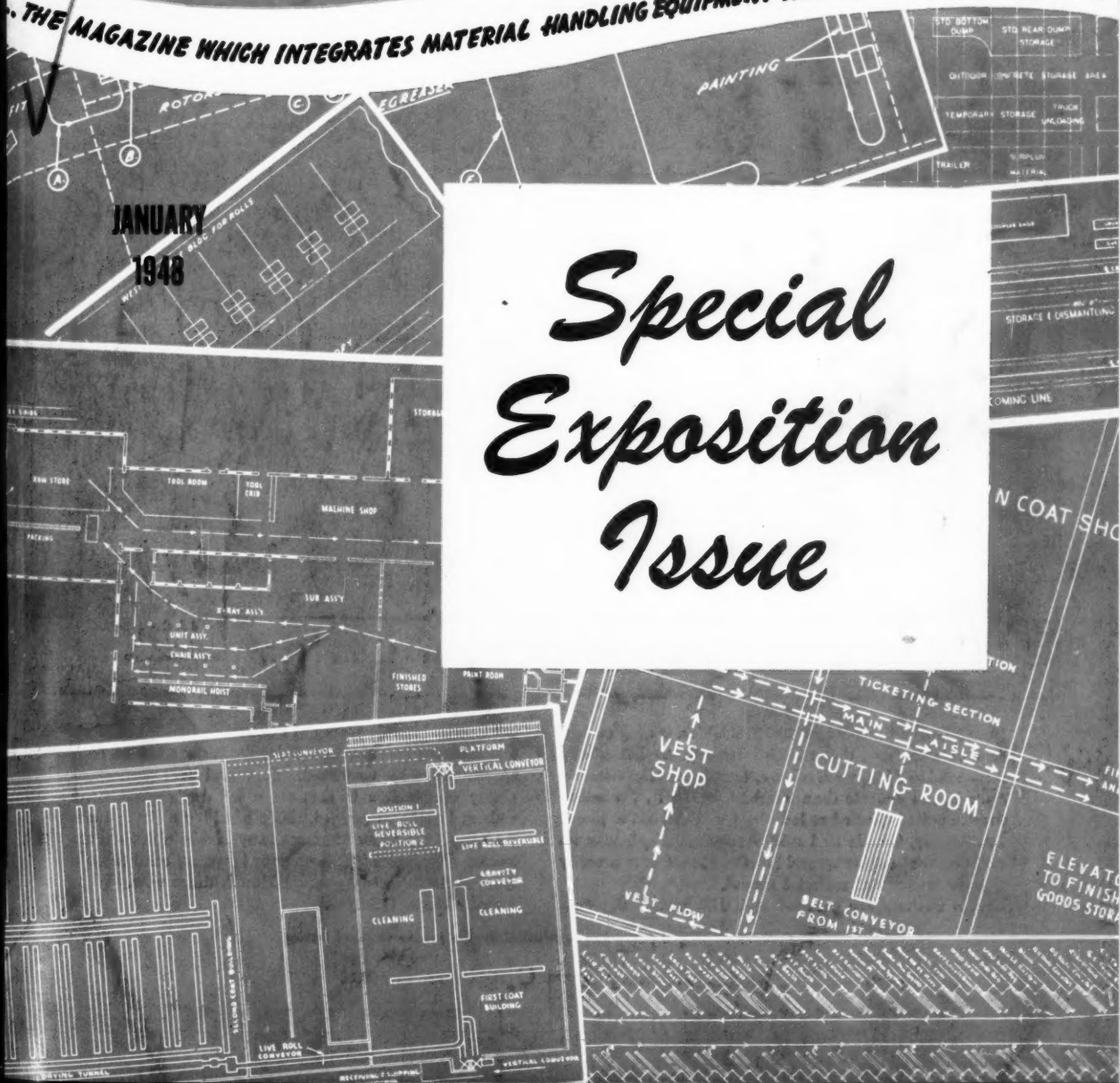
Flow

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DETROIT

THE MAGAZINE WHICH INTEGRATES MATERIAL HANDLING EQUIPMENT INTO THE FLOW OF PRODUCTION

JANUARY
1948

Special Exposition Issue



IN THIS ISSUE: { THE SHOW — complete EXPOSITION directory ... men, equipment, booths ... PATTERN FOR FUTURE? — look-
ON THE SCENE REPORTS

8 Hours  Continuous Operation
on 1 Gallon of Gas  ... *that's*

LOW-COST HAULING



\$775
F. O. B.
JACKSON

for the 19 out of 20 shop loads which are less than 1 ton

It's a cinch for us to prove that Truck-Man is easy on fuel and upkeep—and that's mighty important. But what's more vital to YOU, we can prove that Truck-Man actually costs less to operate than hand lift trucks . . . whether they're pulled, pushed or led about with the aid of power . . . Speedy, flexible and safe, Truck-Man's hydraulic lift and powerful engine spread handling labor over a vastly greater tonnage of material moved.

Simple controls are grouped in a 12" circle. Big dual

pneumatics provide plenty of traction and riding comfort. The operator *rides with the load*. Instant low or high speeds are at his command. Easy and light maneuverability enable him to turn out a full day's productivity without fatigue or hazard. He's *glad* it's a Truck-Man. And you'll agree that fuel economy is only a drop in the bucket when the red line on your handling costs takes a dive! Check the many Truck-Man features now. Write for new Model D Folder.

Over 70 Truck-Man distributors in principal centers provide standard service

Ask Any Operator About

truck-man

1418 West Ganson,

truck-man INC.

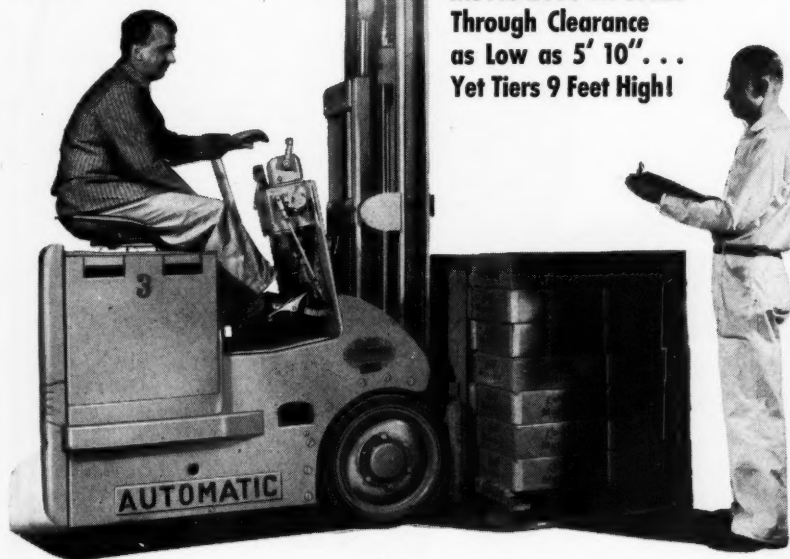
Jackson, Mich.

How Kraft Foods Company Expedites Material Handling with New Fork Truck for Low Clearance, Crowded Loading and Tying!

Amazing New
Automatic

Skylift SHIPPER

Moves 2000 lb. Loads
Through Clearance
as Low as 5' 10" . . .
Yet Tiers 9 Feet High!



Designed to exacting specifications of industry, amazing new Skylift SHIPPER accelerates material handling for KRAFT FOODS COMPANY in low clearance shipping operations! Pictures shown tell the story.

Now for the first time available to all industry, Skylift SHIPPER is the shortest fork truck ever designed—a truck that handles 2000 pound 48 inch loads on docks, storage areas and aisles too crowded or small for ordinary fork trucks.

Its low collapsed height of 68 inches, permits easy entry into trucks, trailers, refrigerator cars, cooler doors and other low-clearance portals.

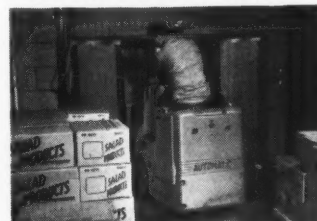
Yet Skylift SHIPPER tiers 108

inches high for warehouse storage. With telescopic lift designed so forks and uprights are raised independently, forks raise 58 inches before uprights begin to extend. Thus you also can tier inside lowest trucks, and box-cars — impossible with trucks whose uprights raise simultaneously with forks.

It drives and operates like a car . . . lightens labor's load. Light weight, compact—and only 97 3/4 inches long, including 36 inch forks, Skylift SHIPPER is the only single truck you can operate as a complete handling system in dock shipping operations and storage tying too! Let an ATCO specialist show you how much it will cut your shipping and handling costs. Mail coupon!



DRIVE INTO TRUCK WITH LOAD
KRAFT FOODS COMPANY expedites loading of low-door trucks and trailers with Skylift SHIPPER. Low collapsed height permits easy entry of a ton of MIRACLE WHIP SALAD DRESSING.



SPEEDS REFRIGERATOR CAR LOADING
Skylift SHIPPER loading a ton of KAY BRAND NATURAL CHEDDAR CHEESE into refrigerator car. Low doorways and narrow aisles are no handicap. And SHIPPER tiers ceiling high inside. Merchandise is moved more efficiently.



9 FOOT TIERING IN NARROWEST AISLES
KRAFT FOODS COMPANY gets extra free storage space by using Skylift SHIPPER for 9 foot high tiering. 2000 pound loads of food products are easily moved and neatly tiered.

Skylift SHIPPER

A PRODUCT OF AUTOMATIC

*Lightens
LIFE'S LOADS*

AUTOMATIC TRANSPORTATION COMPANY
DIV. OF THE YALE & TOWNE MFG. CO.

141 West 87th Street, Dept. A-8, Chicago 20, Ill.
Please mail me, without cost, complete facts about your new Skylift SHIPPER Electric Truck.
☐ Have an ATCO Specialist make a free survey of my material handling costs.

Company Name.....

By..... Position.....

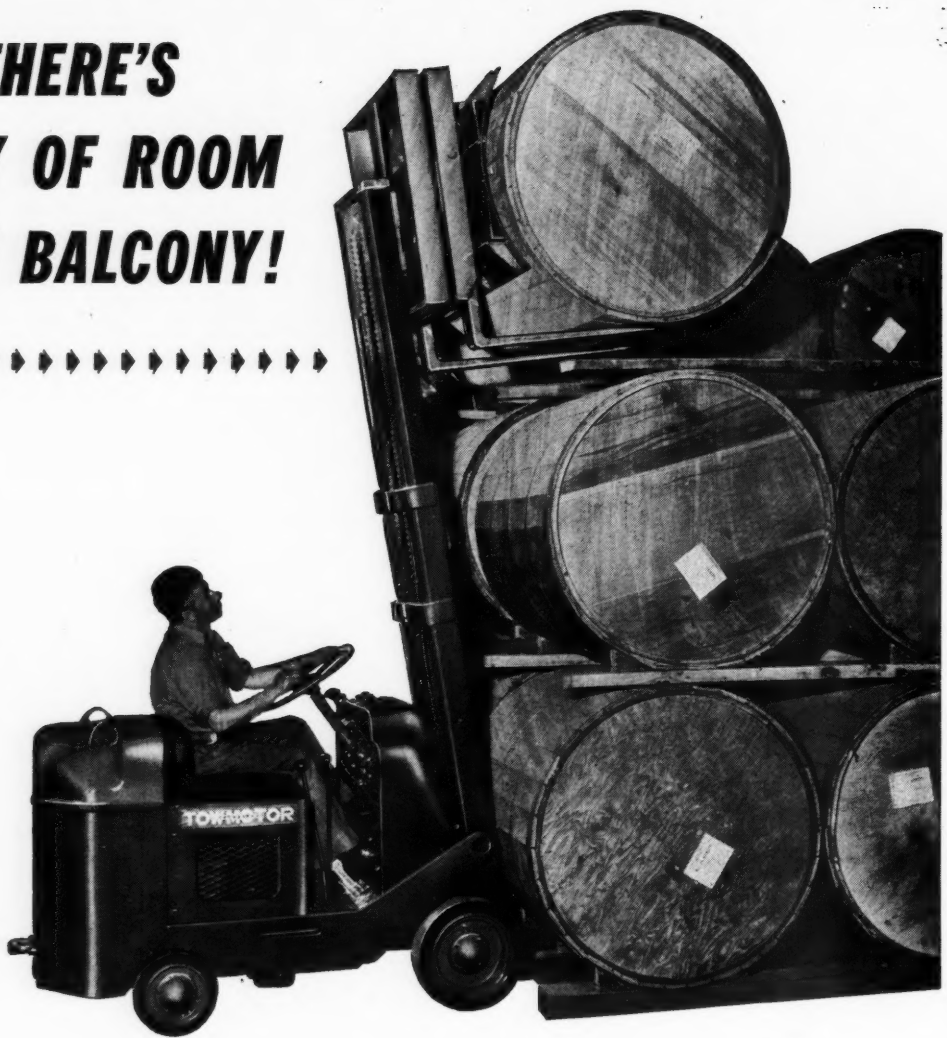
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City..... Zone..... State.....

MANUFACTURERS OF THE FAMOUS TRANSPORTERS, TRANSTACKERS AND SKYLIFT ELECTRIC TRUCKS

JANUARY, 1948

THERE'S PLENTY OF ROOM IN THE BALCONY!



"Main floor" storage is expensive — especially when overhead storage space is wasted. In many operations, outmoded handling methods prevent full utilization of the existing storage area. In many other operations, Towmotor Fork Lift Trucks have doubled, even tripled, storage capacity through high stacking of materials and products.

Let Towmotor show you how to "pack the house," convert waste space into profitable warehouse space. First step? Send for a Pocket Catalog describing the complete line of Towmotor Fork Lift Trucks and Accessories.

**SEND for special bulletins
describing the TOWMOTOR**

**UNLOADER
UPENDER • SCOOP
CRANE ARM
EXTENSION FORKS
EXTENSION BACKREST
RAM • OVERHEAD GUARD**

TOWMOTOR CORPORATION
Division 8, 1226 East 152nd St., Cleveland 10, Ohio



TOWMOTOR

THE ONE-MAN-TEAM

FORK LIFT TRUCKS *and* TRACTORS

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

Flow

JANUARY, 1948

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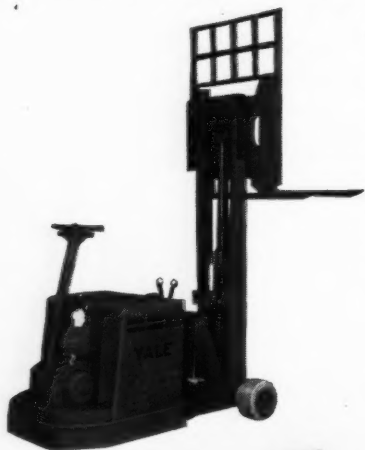
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"Acceptance under the act of June 5, 1934, at Milwaukee, Wisconsin
authorized August 15, 1947."



You'll pile up **BIG SAVINGS** this way!



Stack goods high in neat, compact storage on pallets and you cram more into each cubic foot of space in your warehouse. The results are: (1) goods are easy to inventory; (2) removing unit loads is a cinch; (3) time and effort are saved; (4) handling costs are reduced.

Yale High-Lift Fork Trucks handle pallet loads with ease and speed in storage and out. They take all the time-stealing hard work out of loading and unloading

freight cars and highway transports. Turn-around time is saved and demurrage charges are cut. Anyway you look at it, these powerful Yale High-Lift Fork Trucks pile up big savings in a hurry.

Convince yourself! Get all the money-saving facts about Yale Material Handling Machinery by phoning nearest representative or writing directly to: The Yale & Towne Manufacturing Company, 4530 Tacony Street, Philadelphia 24, Pa.

SEE YALE TRUCKS IN ACTION!

NATIONAL MATERIALS HANDLING EXPOSITION
CLEVELAND AUDITORIUM, BOOTHS 125-130

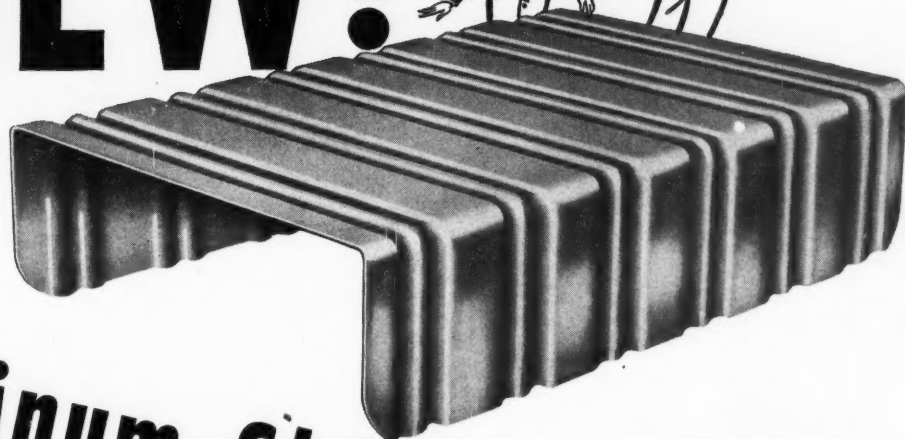
MATERIAL HANDLING MACHINERY

CUTS PRODUCTION COSTS... SAVES TIME... SAVES EFFORT... PROMOTES SAFETY



INDUSTRIAL DIAL SCALES • HOISTS—HAND AND ELECTRIC • TRUCKS—HAND LIFT AND ELECTRIC

NEW!



Aluminum Skid Platform



Note the deep, Double Corrugations—making the knee the strongest part of the skid.

..featuring Union Metal's
Exclusive
double corrugated construction

8 big advantages

COMBINING all the advantages inherent in aluminum with the strength of mild steel, these units—a new addition to Union Metal's regular line of materials handling equipment—offer these advantages:

1. Light weight
2. One piece construction
3. Resistance to corrosion, most acids, and sulphur compounds
4. Require no painting
5. Keep their good appearance "for life"

6. Non-toxic
7. Non-sparking
8. High salvage value

These Aluminum Skid Platforms are ideal for handling baked goods, dairy products, candy and other foods... explo-

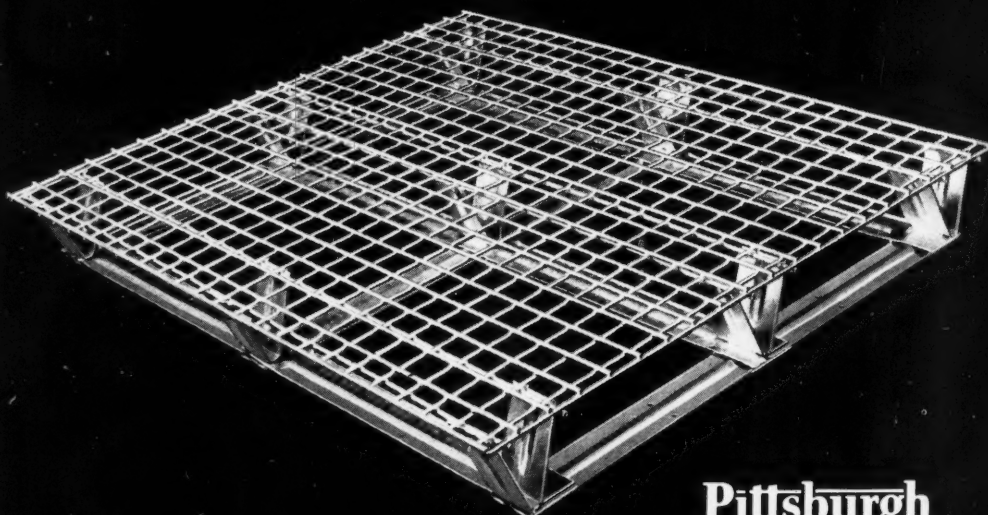
sives and highly volatile liquids. Excellent for outdoor storage.

The Double Corrugation feature, a Union Metal exclusive, also used in Union Metal steel skids, lengthens skid life—increases resistance to rough handling—permits heavier loads without buckling. For complete information, write The Union Metal Mfg. Co., Canton 5, Ohio.

UNION METAL
Materials Handling Equipment

PITTSBURGH 8-WAY STEEL

"The Modern Way"



Pittsburgh

8-WAY STEEL WIRE PALLET



Pittsburgh

8-WAY STEEL WIRE CARGOTAINER

(Pat. Applied For)

WIRE PALLETS and CARGOTAINERS

to Handle More for Less

THE PALLET—available in three standard sizes—36" x 48"; 40" x 48"; and 48" x 48". Other sizes on special order.



STRONG, YET LIGHT—Supports *more* yet weighs *less* than most other pallets.



DURABLE—One-piece, all-steel construction—fireproof, corrosion-resistant and vermin-proof—is all-welded for permanent strength and minimum maintenance.



RESILIENT—Has "give" to cushion loads under sudden impact.

COMPACT—Occupies only five inches of vertical space.

EVENLY BALANCED—Heavy flat strip steel bearing plates, supported by V-shaped steel strip-



plates, provide stacking qualities and weight distribution of double-faced pallet without weight of an extra deck.



ACCESSIBLE—Provides easy fork lift entry from every side and corner.



QUICKLY LOADED—Permits rigid, secure fastening of *any* shaped load from angle and at *any* point on the open mesh construction.



EASILY CLEANED—Won't absorb grease, oil, water or other liquids injurious to load. Washes off easily with plain water without rotting, warping or splintering.

EASILY HANDLED—Gripped and handled easily by one man for storing or moving.

PITTSBURGH 8-Way Steel Wire Pallets and Cargotainers give you *maximum efficiency* and *maximum protection for loads and men* in the palletized handling of materials for manufacturing, warehousing and shipping. Rugged, light-weight, compact, clean and easy to use, this all-metal equipment is built for long-lasting, trouble-free service. Write for full information today.

THE CARGOTAINER—A Pittsburgh Pallet with an integral steel wire mesh container for the palletized handling of bulk merchandise. Standard sizes—Base: 36" x 46"; 40" x 48" and 48" x 48". Height of Sides: 24". Other sizes available on special order.



EASILY AND SAFELY STACKED—Heavy durable wire mesh bearing plates provide wide and evenly distributed bearing surface. Heavy steel rod supporting legs and stacking devices are specially tested for resistance to fork truck abuse.



COLLAPSIBLE—Sides fasten to base pallet and at two adjoining edges with removable steel wire coils. Other two edges fasten with patented locks. With locked edges open, sides fold together compactly on pallet deck, taking up little more room than the base pallet.



VENTILATED—Provides utmost ventilation for curing and drying of contents. Reduces spoilage of fruits and other perishable goods in transit.



ALWAYS UPRIGHT—Base pallet assures correct positioning of container and load.



QUICKLY INVENTORIED—Allows fast examination of contents for simplified checking of receipts, deliveries and inventories.



APPLICABLE TO DISPLAY USE—Can often be used after delivery to display load on retail floor, eliminating need for counters or special bins.

AVAILABLE WITH OPTIONAL EQUIPMENT—Can be provided with: Hook Plates for crane handling; Side Opening Panel and a Center-Split-Opening Sealing Lid.

• See You at Booth 415, Cleveland Materials Handling Exposition •

PITTSBURGH STEEL PRODUCTS COMPANY

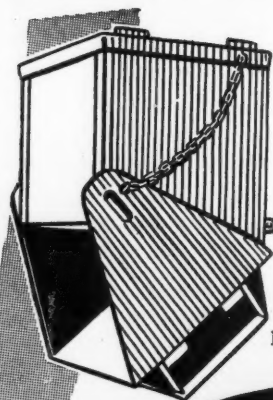
A Subsidiary of Pittsburgh Steel Company

1763 GRANT BUILDING • PITTSBURGH 30, PA.



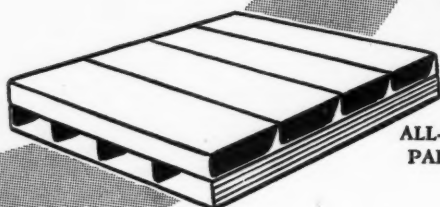
Trade Mark

SPECIAL EQUIPMENT...

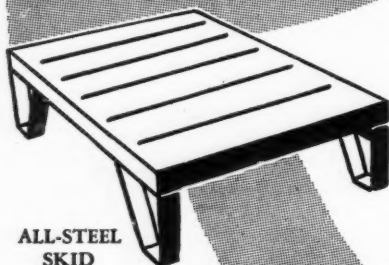


DROP BOTTOM
HOPPER

FOR THE
EFFICIENCY OF YOUR
**MATERIALS
HANDLING**



ALL-STEEL
PALLET



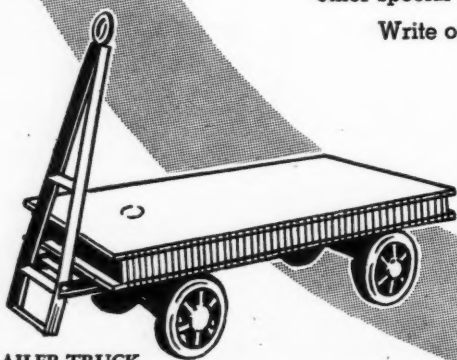
ALL-STEEL
SKID

Designed and built to your specific needs, Fab-Weld all-steel equipment means top economy, strength and durability. Trucks, dump hoppers, skids, racks and bin boxes are examples of Fab-Weld geared-to-the-job engineering. Many variations of these essential forms of materials handling equipment have been designed and built for our clients, as well as many other special types for use with difficult-to-handle products.

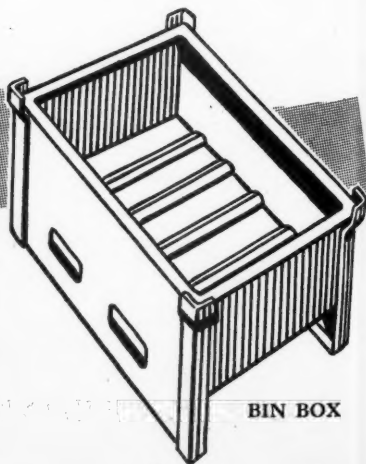
Write our Materials Handling Division for full details.

Representatives in all principal cities.

*Visit our Booth No. 329 at the National
Materials Handling Exposition in Cleveland.*



TRAILER TRUCK



BIN BOX

FAB-WELD CORPORATION

RICHMOND ST. AT PICKWICK, PHILA. 34, PA.

FLOW

Use Battery Trucks for **SAFE** handling



... and Low-Cost Power

One of the outstanding advantages of battery industrial trucks for material handling is their inherent safety. Because they give off no fumes and are practically free from fire hazards, they can be used without restriction in almost any kind of plant. They can even be provided with spark-enclosed construction for safe operation in hazardous locations.

With batteries exchanged two or three times per 24-hour day, the truck is kept continuously supplied with power. While one battery operates the truck, another is being charged. Except for the few minutes needed to change batteries, the truck need not stop for servicing its power unit. Its electric motor drives have a minimum of wearing parts; are inherently simple and trouble-free. The truck starts instantly; accelerates smoothly; operates quietly; consumes no power during stops. Not only does it make efficient use of power but the current used for battery charging is the lowest-cost power available.

Thus the battery truck is an inherently dependable, safe and economical handling unit, especially when powered by EDISON Nickel-Iron-Alkaline Batteries. With steel cell construction, a solution that is a natural preservative of steel and a fool-proof principle of operation, they are the most durable, longest-lived and most trouble-free of all batteries. *Edison Storage Battery Division of Thomas A. Edison, Inc., West Orange, New Jersey. In Canada: International Equipment Company Limited, Montreal and Toronto.*



EDISON
Nickel • Iron • Alkaline
STORAGE BATTERIES



In Industrial Trucks, EDISON Nickel-Iron-Alkaline Batteries Give You These Important Advantages

They are **durable mechanically**; grids, containers and other structural parts of the cells are of steel; the alkaline electrolyte is a preservative of steel.

They can be **charged rapidly**; gassing cannot dislodge the active materials.

They **withstand temperature extremes**; are free from freezing hazard; are easily ventilated for rapid cooling.

They are **foolproof electrically**; are not injured by short circuiting, reverse charging or similar accidents.

They can **stand idle indefinitely** without injury. Merely discharge, shortcircuit, and store in a clean, dry place.

They are **simple and easy to maintain**.

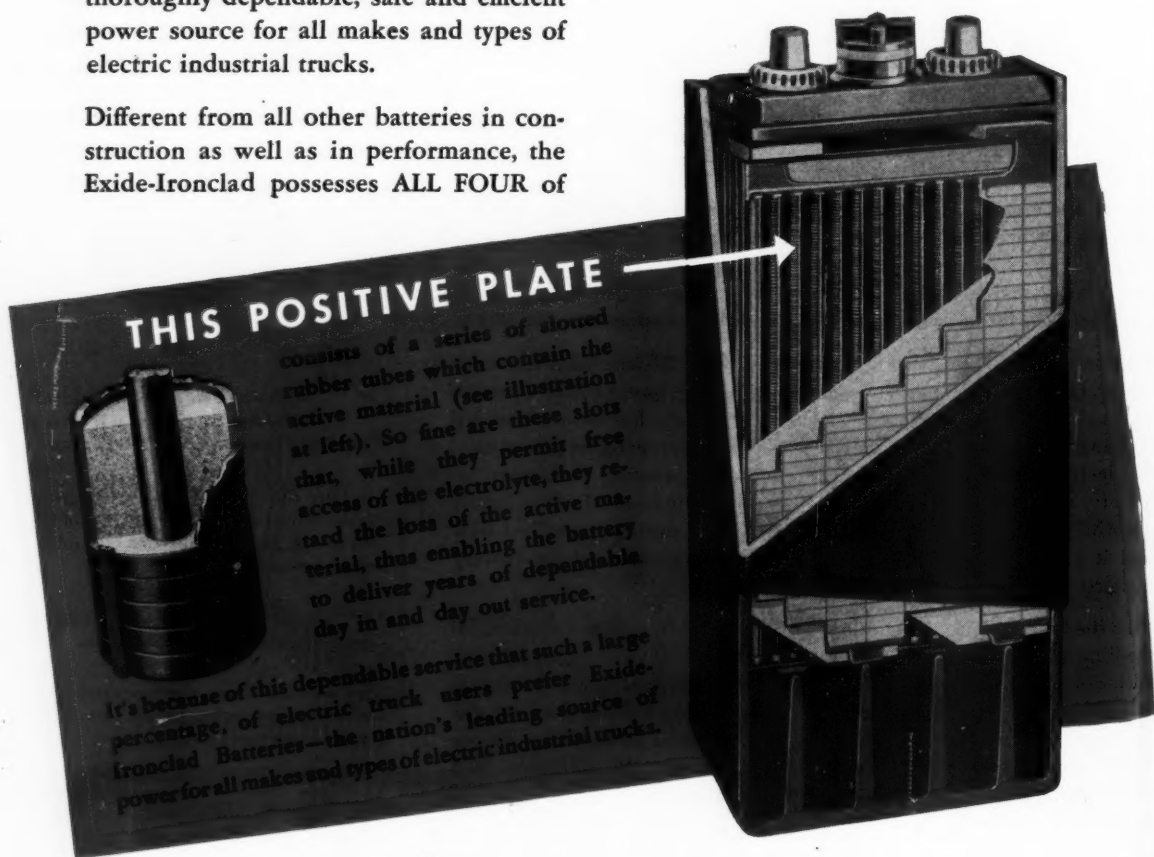
USERS EXPRESS PREFERENCE FOR **Exide** IRONCLAD BATTERIES

IN a recent national survey made by a leading industrial publication, 81.1% of electric industrial truck users expressed a preference for Exide-Ironclad Batteries.

Such overwhelming preference for the Exide-Ironclad Battery is based upon user experience. This unique battery has, during the past 35 years, proved itself to be a thoroughly dependable, safe and efficient power source for all makes and types of electric industrial trucks.

Different from all other batteries in construction as well as in performance, the Exide-Ironclad possesses ALL FOUR of

the essential characteristics demanded of a battery for electric industrial truck service—(1) high power ability, (2) high efficiency, (3) great ruggedness, and (4) long life. These characteristics are due to the special construction of the Exide-Ironclad Battery, especially its rugged, tubular positive plate.



Write for further particulars and **FREE** copy of Exide-Ironclad Topics, which covers latest developments in material handling and shows actual case histories.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto

SKID PLATFORMS ★ SEMI-LIVE SKIDS FLOOR TRUCKS ★ DOLLIES ★ PRY BARS

... designed for greatest Operator Safety and Economy



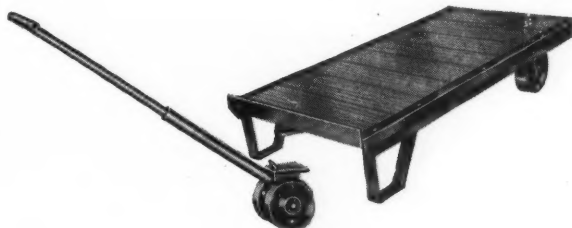
IRONBOUND SKID PLATFORMS

These skid platforms will carry loads up to 10,000 lbs. Decks are seasoned hardwood. Assembly is either bolted, bolted and welded or all welded. Specially designed units can be built to handle partly fabricated or assembled parts on production lines. The round corners, flush angles and countersunk bolts of the "safety" unit, make for greater operator safety at minimum cost.



SEMI-LIVE SKID WITH LIFT JACK

The Ironbound semi-live skid will carry loads up to 2500 lbs. safely and easily. Thousands of these "Short-Haul" units have been helping manufacturers to speed production. A properly planned "Short-Haul" system will provide empties where need is greatest. The area of one unit will adequately store many immobilized units. These units are constructed from new steel and selected hardwood and are all bolted construction.



IRONBOUND
BARREL SKID

Selected hardwood rails of this skid reinforced entire length with flat steel bars. Hooks are provided at one end for attaching to loading platform or truck tailboard.

BOUND TO BE BETTER
Ironbound
MATERIALS HANDLING EQUIPMENT



IRONBOUND
PRY BAR

Used in pairs these units have a rated capacity of 8000 lbs. The tough hardwood handle and one piece forged nose assures long life. Machined axle for smooth operation.



IRONBOUND DOLLIES

The "Handy", illustrated, is one of three popular units for handling heavy loads. The "Handy" is the most popular dolly for furniture handling.

Frame of 1 1/2" hardwood is shaped for comfortable hand grip. Has four swivel casters with 3" rubber or semi-steel wheels, with or without roller bearings. All three of the inexpensive units are fully described in bulletin 190. Ask for it!



This all-purpose unit has selected hardwood 1 1/2" deck and all-bolted assembly.

Rated capacity with 8" diameter semi-steel roller bearing wheels is 2000 lbs. Available in four standard sizes: 27x54, 30x48, 30x60, 36x60. Can be had with one handle or two as illustrated. Special super structures can be designed to speed production of particular products.



MATERIALS
HANDLING
EXPOSITION

Visit our exhibit
BOOTH NO. 311

CLEVELAND
JANUARY 12-16

IRONBOUND BOX & LUMBER COMPANY

MATERIALS HANDLING DIVISION

30 HOFFMAN PLACE • HILLSIDE, NEW JERSEY

JANUARY, 1948

AT LAST! . . . the answer to the basic need in materials handling

SEE the BELL Prime-Mover
at Booth 714, National Materials Handling Exposition,
Cleveland Auditorium,
Jan. 12-16.



The BELL Prime-Mover

● For the first time in history, the flexibility of the wheelbarrow and the capacity and economy of power equipment have now been joined in a new kind of industrial tool . . . the BELL Prime-Mover.

This new all-purpose material carrier performs a virtually unlimited range of plant-wide chores. Its rugged, 10 cu. ft. mechanically dumping bucket is quickly interchangeable with a heavy-duty platform carrier, without tools. It turns in less space than a hand barrow, twists through tight spots with

ease, ascends 20° grades with full loads.

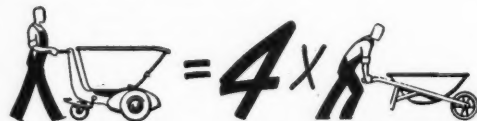
Simple controls and full visibility assure safe operation by any workman after three minutes instruction. Proved results include reduced fatigue and better employee morale along with increased individual productivity.

Low cost from first to last is inherent in the BELL Prime-Mover. It has no chains or belts; clutch and gears run in oil, fully enclosed. One 3-gallon tankful of fuel is good for 8 hours of all-round efficiency anywhere on any job.

For details about the Prime-Mover's

ONE MAN DOES THE WORK OF FOUR

Ten cubic feet capacity at a fuel cost of a few cents per hour saves many dollars a day.



TAKES PLATFORM LOADS...REMOVES SNOW



Platform body quickly adapts Prime-Mover for staked or un-staked loads up to 1,000 lbs. Snow plow attachment is built for long, hard service.

unique combination of money-earning features, use the coupon now.

SEND COUPON NOW

Bell Aircraft Corporation
P. O. Box 11, Buffalo 5, N. Y.

Please send me engineering and cost data on the Prime-Mover, including operating experience in.....(type of work).

Name

Company

Address

City, Zone & State.....

A PRODUCT OF BELL Aircraft CORPORATION



We say that your Yale Hoist Distributor is the man on whom to rely, not merely because he is a reliable source of supply, but because he is your partner in business.

Through years of working together you have learned to depend on him for advice and aid in helping you plan hoist installations that will not only prove satisfactory to your customers but will also prove profitable to you. You have learned to rely on his experience, and knowledge, his contribution to the smooth operation of your business, his anticipation of your needs by stocking the equipment and parts you buy regularly. Also, you have found that your Yale Distributor helps reduce your hoist investment to current needs by serving as a nearby storeroom. And when you need service in a hurry you've found him to be "Johnny-on-the-spot." We, here at Yale & Towne, like this feeling of partnership because your distributor is also our distributor; and we feel as though we are having a part in this relationship that is making it desirable, pleasant and profitable for you to do business with him.

If you haven't been in touch with your Yale Distributor lately, do it today. Find out what's new in hoists. The Yale & Towne Mfg. Co., 4530 Tacony St., Phila. 24, Pa.



SEE YALE HOISTS IN ACTION!

NATIONAL MATERIALS HANDLING EXPOSITION • CLEVELAND AUDITORIUM • BOOTHS 125-130



INDUSTRIAL DIAL SCALES • HOISTS—HAND AND ELECTRIC • TRUCKS—HAND LIFT AND ELECTRIC

JANUARY, 1948

UNISTRUTTM

ALL-PURPOSE METAL FRAMING

PALLET RACKS STORAGE RACKS EQUIPMENT FRAMING

Built to Your EXACT Specifications

Rugged, yet completely adjustable, UNISTRUT racks and equipment meet the most rigorous requirements of many of the nation's largest companies. Sears, Roebuck and Co., Hibbard, Spencer, Bartlett and Co. (one of the world's largest wholesale hardware distributors), Sprague Warner (division of Consolidated Grocers' Corporation), Marshall Field and Co., and many more are users of UNISTRUT equipment. UNISTRUT racks facilitate the completely palletized handling of items ranging from soap chips to nails, as well as such bulky, unwieldy items as furniture or axes. Sturdy but not bulky, UNISTRUT is the answer to neat and effi-



(ABOVE) Designed for 48" x 40", two thousand pound capacity pallets, these racks were selected by the Sears experts to meet their exceptionally wide range of pallet rack requirements. We are proud to have added to the material handling efficiency of Sears, Roebuck and Co.



Visit our Booth No. 210 featuring UNISTRUT at the Cleveland National Materials Handling Exposition. Booth 610B features a palletized handling demonstration with UNISTRUT pallet racks and the new TRANSITIER fork lift truck—setting a precedent for maneuverability and high speed materials handling.

These UNISTRUT racks installed in a large Chicago warehouse of Marshall Field and Co. are typical of the many diversified uses for this equipment. Furniture, a problem in any department store warehouse, is neatly stored in a minimum of space. Erection time is drastically reduced.

Racks are attractive—UNISTRUT material is 100% reusable.

Racks are quickly converted to a load carrying capacity to suit your changing requirements.

Ideal for grocery order picking lines, general warehousing storage, department store storage, parts storage . . .

Remember! Designed to your exact specifications, UNISTRUT will solve your troublesome storage problems.

UNISTRUT PRODUCTS *Company*

1013 WASHINGTON BLVD. CHICAGO, ILL. PHONE MONROE 2665

REPRESENTATIVES IN ALL PRINCIPAL CITIES IN U. S. A.

Ready Now!

The REVOLVATOR **GO-GETTER** POWER LIFTRUCK

Platform Skid Model — 4,000 & 6,000 lb. Capacity
(Other Types Available)

Finger touch single lever directional control—forward and backward.

Easier to operate than a vacuum cleaner.
Utmost safety and convenience.

Superior maneuverability with
200° turning arc.

Delayed action controller (exclusive) insures gradual starting, providing longer life to motor and gear.

Controls may be operated in any position of handle, which is key to all operations.

Adjustable Timken Bearings throughout (exclusive).

Operates normally for 8 hours without re-charging.

Maximum safety through hydraulic braking (exclusive).

Dual differential driving wheels insure effective traction and better load distribution on uneven surfaces.

Send for comparative specification sheet and you'll be amazed at the numerous exclusive features incorporated in the design of this up-to-the-minute GO-GETTER Power Liftruck. And yet it costs you no more than ordinary walk-alongs. Investigate thoroughly then invest in this great time and labor saver, designed and built by one of the oldest material handling manufacturers.

Other REVOLVATOR products include Portable, Hydraulic and Traction Elevators, Red Giant Hand Liftrucks, Cranes, Dumpers, Positioners and Storage Racks. Send for bulletins.

REVOLVATOR CO.

8739 Tonnelle Ave.

NORTH BERGEN, N. J.

Since 1904

JANUARY, 1948

13 Times as Fast as a Hand Hoist!

... yet the
One-Ton Whiting Hoist
Costs Only **\$230⁰⁰**
F. O. B.
HARVEY, ILL.

Every second that expensive machines stand idle while skilled workers struggle with heavy loads, costs you real money. You can speed up your materials handling and cut idle time with Whiting electric hoists. Even when used only a few minutes a day, they pay for themselves in a very few months. Workers like them too, because they make it so easy to handle back-breaking loads.

Whiting hoists are so light they can be installed by one man ... yet so rugged they will stand up under heavy duty. They have steel from hook to hook for extra safety ... require less than 20 in. headroom ... have ball bearings throughout. Precision worm-gear drive provides smooth, silent power, with fewer parts to wear. To install a Whiting hoist, simply hang it up, plug into the nearest electrical outlet, and it's ready to go.

Whiting hoists
provide easy,
one hand control.

Whiting ELECTRIC HOISTS

$\frac{1}{4}$, $\frac{1}{2}$, and 1-Ton



If it Saves One Man
Only 12 Minutes a Day
IT PAYS A PROFIT!

WRITE FOR BULLETIN H-100A

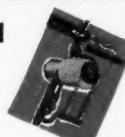
WHITING CORPORATION
15659 Lathrop Avenue, Harvey, Illinois

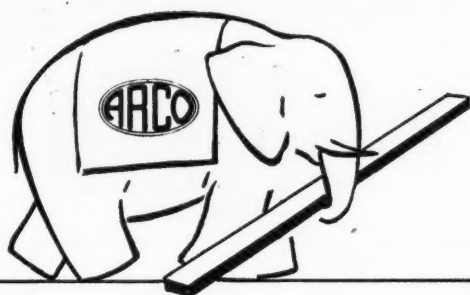
- ☐ Send me a copy of your Bulletin H-100A describing the new Whiting electric hoist.
- ☐ Please send me the name of the Whiting distributor in my territory who can give me immediate delivery on a Whiting hoist.

NAME

ADDRESS

CITY STATE

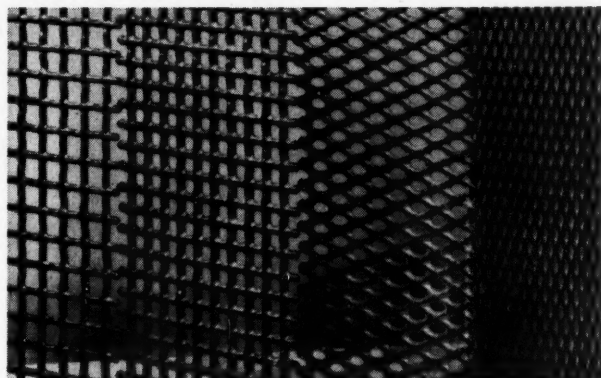




SEE THEM AT THE BIG
MATERIAL HANDLING SHOW
CLEVELAND—JAN. 12-16

Booth 514

Rubber Covered MATERIAL HANDLING SCREENS



**ANY SIZE/ ANY SHAPE/ ANY MESH/
FOR PROTECTING
FRAGILE AND FINISHED SURFACES**

Pallets or separators made of woven wire, or perforated, or expanded steel, are completely covered with tough, durable rubber—leaving no metal exposed.

Plated, painted and precision-finished parts surfaces, glass, porcelain and other fragile materials can be handled without damage in intra and inter-plant transfer—can be stacked safely, conserving floor space—if they are cushioned on rubber.



Section shows how rubber is bonded to metal and completely covers it. The same mesh as shown can be obtained in any gauge wire or finished hole size—depending on the nature of the part or rigidity desired.

Typical use—dividers for tote pans to protect plated parts. Open mesh permits drainage.

NOTE:

Booth 514 is in lower exhibit hall at the end of the aisle. A long way to walk, but worth your time. We hope you'll visit us.

AUTOMOTIVE RUBBER COMPANY, INC.
8607 EPWORTH BLVD. • DETROIT 4, MICHIGAN

CATALOG SHEETS ON REQUEST

JANUARY, 1948

Rubber Covered CONVEYOR & HANDLING BASKETS

Your metal baskets, trays and hooks can be covered, partially or completely, with rubber—OR—they will be fabricated to your specification and covered. Write for information or see samples at the show.

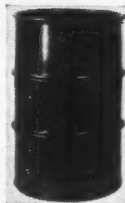


Rubber-Covered ACID HANDLING UTENSILS

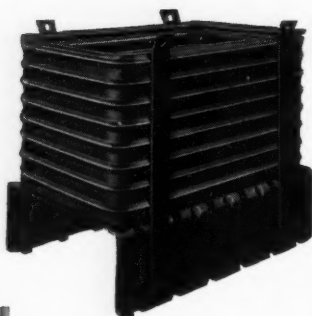


Unbreakable!

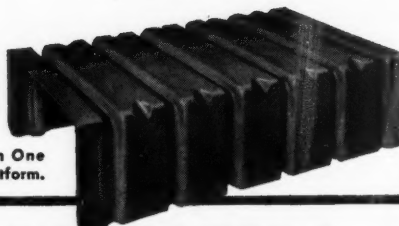
Withstand terrific shop abuse. Constructed with a welded, perforated metal core. Covered inside and out with rubber. The only really safe utensils made. Last longer because rubber coatings are welded through metal perforations. Rubber cannot separate from metal.



Rubber-covered drums for storing and mixing corrosive solutions. 10, 15, 30, 55 gallon.

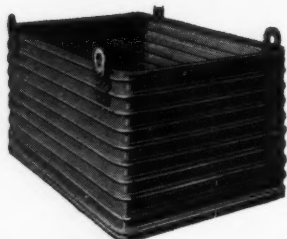


Type PB-120L Truscon Box and Platform with full length lifting lugs.

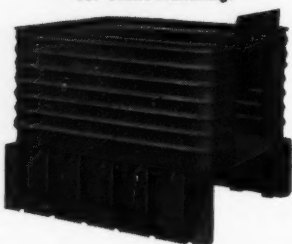


Type P-1. Truscon One Piece Steel Skid Platform.

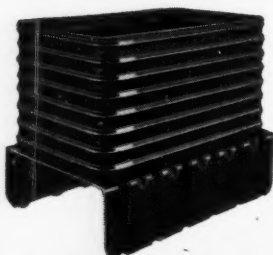
HEADQUARTERS FOR *Material Handling Equipment*



Type B-80C Truscon Box Equipped for Crane Handling.

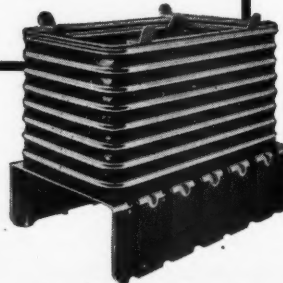
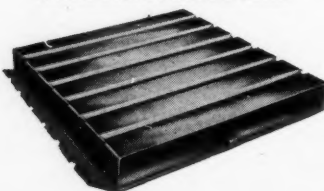


Type PB-650 Truscon Box and Platform with sliding End Door.



Type PB-120 Truscon Steel Box and Platform.

Truscon Double Face Steel Pallet.



Type PB-120T. Truscon Steel Box and Platform with Tying Lugs.

THE SUCCESS of modern production methods depends upon the efficiency with which materials and products in various stages of fabrication can be handled.

Truscon's Pressed Steel Division—nationally known for the quality of its products and the dependability of its service—is fully equipped and prepared to handle your material handling equipment requirements. The Pressed Steel Division's central location, moreover, assures efficient service for all your needs. Write for free catalog describing the complete line of Truscon Steel Boxes and Steel Skids.



TRUSCON
STEEL COMPANY
PRESSED STEEL DIVISION
6202 Truscon Ave. • Cleveland 4, O.
Subsidiary of Republic Steel Corp.

PUT

35 YEARS

HANDLING EXPERIENCE TO WORK FOR YOU

A pioneer in the materials handling field, Mercury has over 35 years in the designing, manufacturing and installation of materials handling equipment. This experience is engineered into every Mercury Tractor, Trailer and Lift Truck.



FORK TRUCKS

Available in the following models:

"JEEP" Sit Down, Center Control Fork Truck: 2000 lbs. capacity. Easily maneuvered in limited areas.
"YAK" Center Control Fork Truck: 4000 lbs. capacity. Rugged design.
"YANK" Center Control Fork Truck: 6000 lbs. capacity. Tough continuous service.

ELEVATING PLATFORM TRUCKS

Available in the following models:

"JUNIOR" Models: Low, high and telescopic lift types. 4000 lbs. capacity.
"SENIOR" Models: Low, high and telescopic lift types. 4000 lbs. capacity.
"STANDARD" Models: Low, high and telescopic lift types. 6000 lbs. capacity. Sturdy design.
"MOGUL" Models: Low and high lift types. 10,000 lbs. capacity. Designed for unusually heavy loads.



TRACTORS—TRAILERS

Available in the following models:

"TUG" Electric Tractor: Powerful compact tractor available in twin-wheel and 4-wheel models, medium or heavy duty. Built to haul any wheeled load it might encounter in industry.
"BANTY" Gas Tractor: Most compact tractor made, yet develops a draw bar pull in excess of 2000 lbs.
"HUSKIE" Gas Tractor: A powerful, 6-cylinder, 4-wheel tractor. Built for severe industrial service.
"SUPER-HUSKIE" Gas Tractor: Dual, rear-wheeled industrial tractor powered with 6-cylinder engine. Built for severe industrial service.
TRAILERS: Available in castor or 5th wheel steer, platform or side dump types.



ON DISPLAY BOOTH 609 • MATERIALS HANDLING EXPOSITION
Cleveland Auditorium • January 12-16



MERCURY

THE MERCURY
MANUFACTURING CO.

4154 S. Halsted St., Chicago 9, Ill.

TRACTORS—TRAILERS—LIFT TRUCKS

FREE: New
Mercury Catalog

52 pages of complete data on all Mercury equipment, including the latest additions to Mercury's expanded materials handling line. Request Catalog. No. 7-11 today



DON'T GUESS WHEN YOU BUY PALLETS!



'BLIND' BUYING CAN BE COSTLY!

No doubt about it—pallets are 'blind' articles to many buyers—sometimes even to the most experienced materials-handling engineers. Many a costly lesson has been learned buying from just any pallet maker who promised lower costs, etc. On paper, or even after delivery, it's difficult to evaluate pallets—oftentimes, not until they fall apart prematurely do you learn how truly costly this blind buying can be.

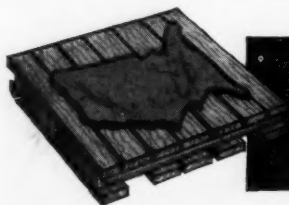
DEPENDABILITY MEANS A LOT

Your palletizing program depends on several factors: (1) Are you buying the pallets best suited for your particular needs? (2) Are they rugged, made of moisture-controlled hardwood, cut right at the source of lumber supply? (3) Are you buying at the best price, especially considering transportation charges on national-scale programs? (4) Are you buying with the confidence that your supplier is sincere and dependable—that he can be counted upon to deliver *on time* and meet your every specification?

Because this confidence is the most important factor, industry's largest users are buying their pallets from NATIONAL—the country's largest pallet manufacturer. Need we say more?

SEND FOR new pallet catalog picturing rugged NATIONAL PALLETS for all materials-handling programs.

SEE NATIONAL PALLETS at the Cleveland Exposition, Booth 523.

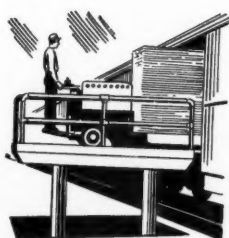


NATIONAL PALLET CORP.

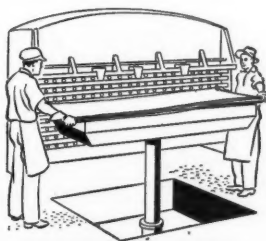
MAIN OFFICES: OLIVER BUILDING PITTSBURGH 22, PA.

Our plants throughout the country's hardwood section enable minimum shipping costs on national programs

VISIT BOOTH 14 AT THE MATERIALS HANDLING EXPOSITION . . . SEE A LEVELATOR AT WORK



Car Loading or Unloading



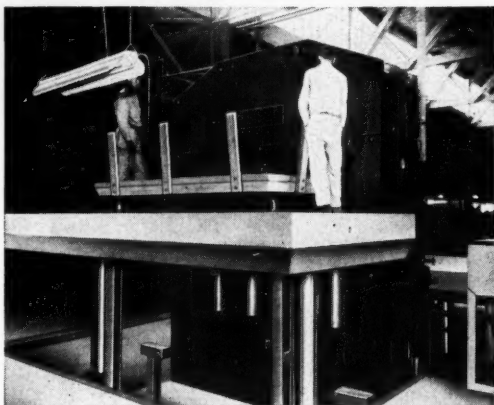
Machine Feeding



Loading Trucks

LIFT LOADS FASTER

Cut Labor Costs up to 50%



Levelator Lifts have hundreds of applications. They speed jobs and save manpower wherever loads are lifted to machines, freight cars, trucks, or different building levels.

• You can slash labor costs by using Levelator Lifts for loading and unloading . . . and for feeding and receiving materials from presses, shears, etc. At the press of a button the powerful oil hydraulic jack or jacks (electric pump operation) lift loads to desired level. When lowered, the Levelator car becomes part of the floor and can be trucked over. Operation safe, dependable, economical. Installation simple.

Need a New Elevator for 2, 3 or 4 Stories?

Rotary's famous Oildraulic Elevator gives dependable operation at lowest cost. Extremely smooth and accurate landing stops and rugged car construction are two Oildraulic features . . . particularly important where loading and unloading is handled by power vehicles. (See photo below.) This modern elevator requires no pent-house or heavy shaftway structure. Loads are pushed up by oil hydraulic jacks powered by electric pump.

Write for Catalog 202 on Levelator Lifts

Catalog 302 on Freight Elevators

ROTARY LIFT CO., 1149 Kansas, Memphis 2, Tenn.



Freight Elevators by Rotary are first choice for use with power vehicles. The "oil locked" hydraulic jacks hold the elevator car accurately at landings during loading and unloading.

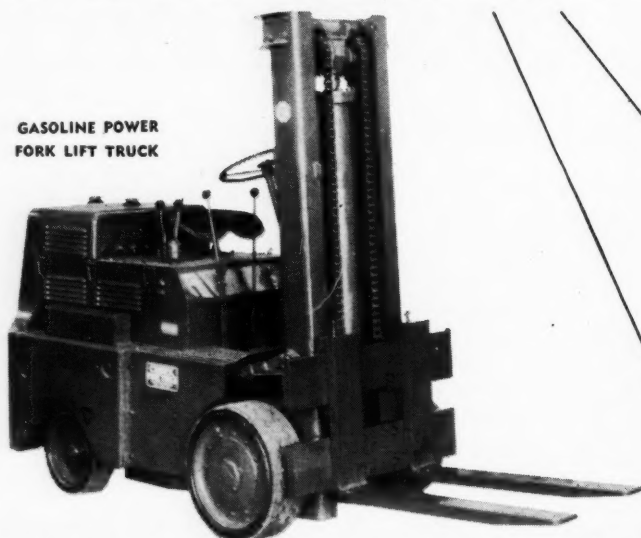
Rotary*

Oildraulic* Levelator* Lifts
Oildraulic Freight Elevators

*Reg. U. S. Pat. Off.

FOR RENT

GASOLINE POWER
FORK LIFT TRUCK



MATERIAL HANDLING EQUIPMENT

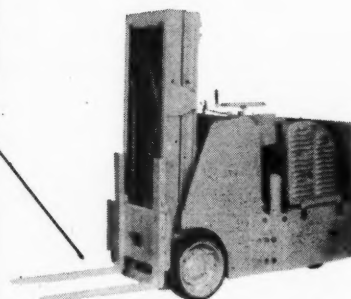
All nationally famous late model fork and platform trucks, either gasoline or electric powered are yours for rent. Should you decide to buy, PORTABLE SERVICE & EQUIPMENT offers you the amazing opportunity of deducting your rentals from the sale price. PORTABLE SERVICE & EQUIPMENT carries all types of new or rebuilt equipment with a warranty of 60-90 days on rebuilt units.

AVAILABLE FOR IMMEDIATE DELIVERY

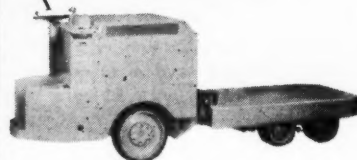
**REMEMBER—YOU
DEDUCT RENTALS
WHEN YOU BUY!**



TRANSPORTER



AUTOMATIC
ELECTRIC FORK LIFT TRUCK



LOW LIFT
PLATFORM TRUCK

Put an end to your waste moves now! Write Today for the PORTABLE SERVICE EQUIPMENT COMPANY'S fully illustrated Catalog "F"

RENTALS . . . SALES . . . SERVICE

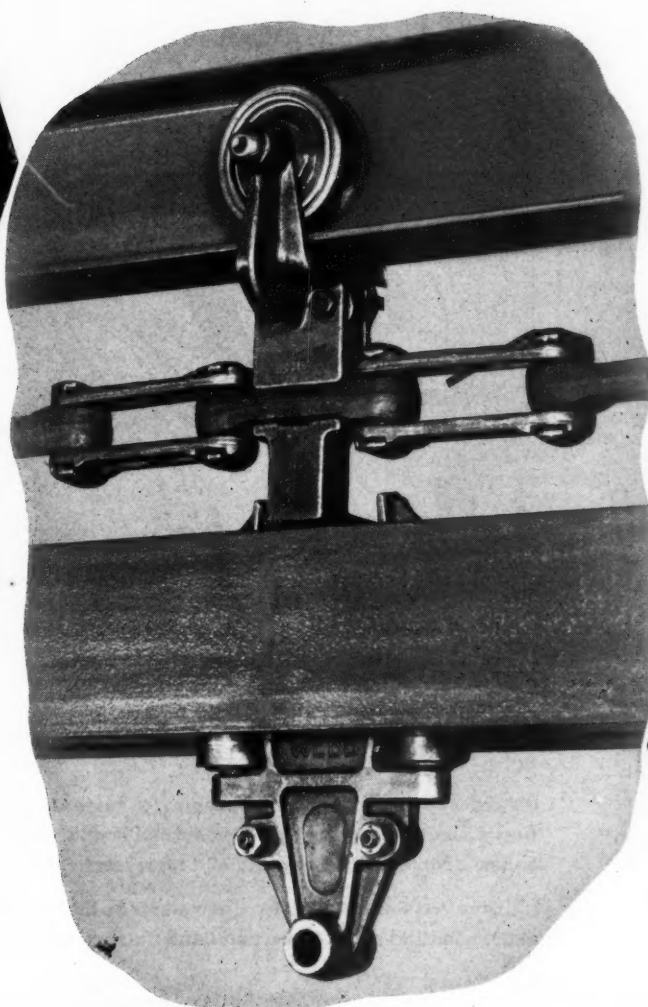
PORTABLE

SERVICE EQUIPMENT CO.

3519-31 N. FRONT STREET • PHILADELPHIA 40, PENNA.

It's New . . . It's Automatic!
"POWER and FREE RAIL"

**P
O
W
E
R**



**F
R
E
E**

See It in Actual Operation at Booths 601-603
NATIONAL MATERIALS HANDLING EXPOSITION,
CLEVELAND AUDITORIUM, JANUARY 12-16, 1948

JERVIS B. WEBB CO.

8951 ALPINE

DETROIT 4, MICHIGAN

JANUARY, 1948



Oh boy! this is it!



GRAVITY CONVEYORS
POWER BELT CONVEYORS
FLOOR TRUCKS
HAND TRUCKS
STEEL-FORGED CASTERS

Been around a lot? Seen everything?

Well...not everything. For here's something new...special...different...and worth taking time off to inspect.

It's the new Rapids-Standard display of Material Handling Equipment. And it's more than a display. It smacks of magic...with a touch of sleight-of-hand. Novel...interesting...and most informative.

It'll give you some new ideas...new slants on the saving of time and money in the handling of materials, parts, and finished products in your business.

You're invited to see it ...at

2nd National Materials Handling Exposition
Cleveland Auditorium . . . Cleveland, Ohio
January 12-16, 1948 • Our booth is No. 610

We'll be looking for you

THE RAPIDS-STANDARD CO., INC.

377 Peoples National Bank Building • Grand Rapids 2, Michigan
Offices in principal cities

RAPIDS-STANDARD

55 60

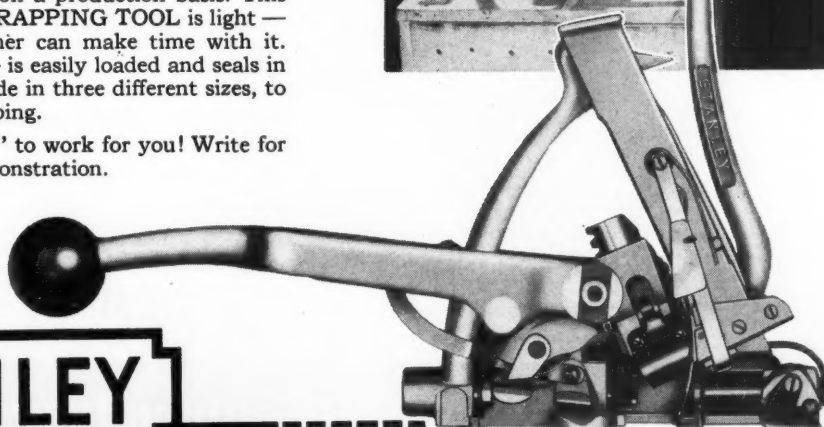
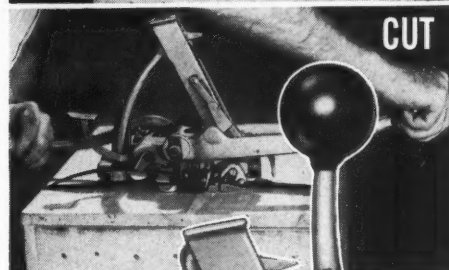
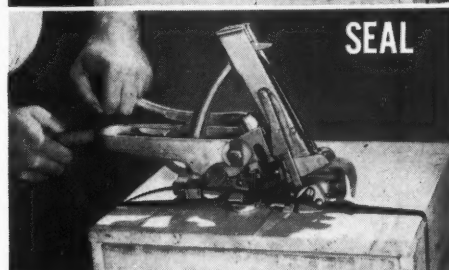
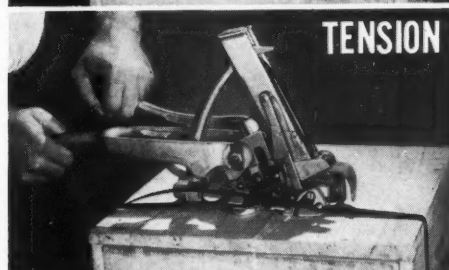
4 STEPS 5 SECONDS

with the improved

STANLEY ACE STRAPPING TOOL

Here's how to put strapping on a production basis. This improved STANLEY ACE STRAPPING TOOL is light — fast — simple — even a beginner can make time with it. Magazine holds 75-100 seals — is easily loaded and seals in any position. The "Ace" is made in three different sizes, to handle $\frac{3}{8}$ ", $\frac{1}{2}$ " and $\frac{5}{8}$ " strapping.

* Decide now to put the "Ace" to work for you! Write for full information or ask for demonstration.



STANLEY

Reg. U.S. Pat. Off.

STEEL STRAPPING AND CAR BANDING SYSTEMS

SEND FOR BOOKLET



The Stanley Works
Steel Strapping Division
203 Lake Street, New Britain, Conn.

Gentlemen: Please send me free folder on the Improved ACE Strapping Tool.

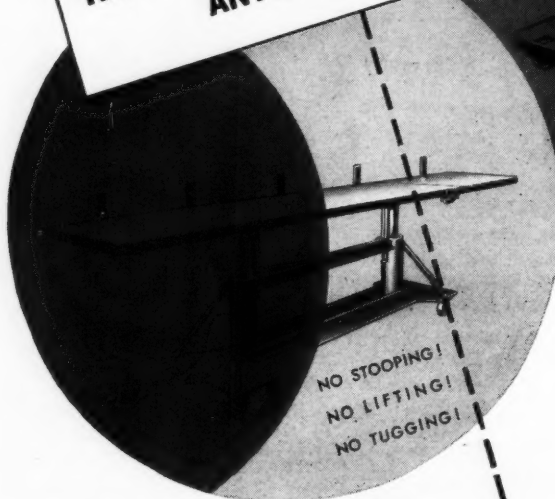
Name.....
Title.....
Company.....
Address.....
City..... State.....

LOOK!
SEE WHAT'S NEW
Booth 328

2ND NATIONAL MATERIALS HANDLING EXPOSITION

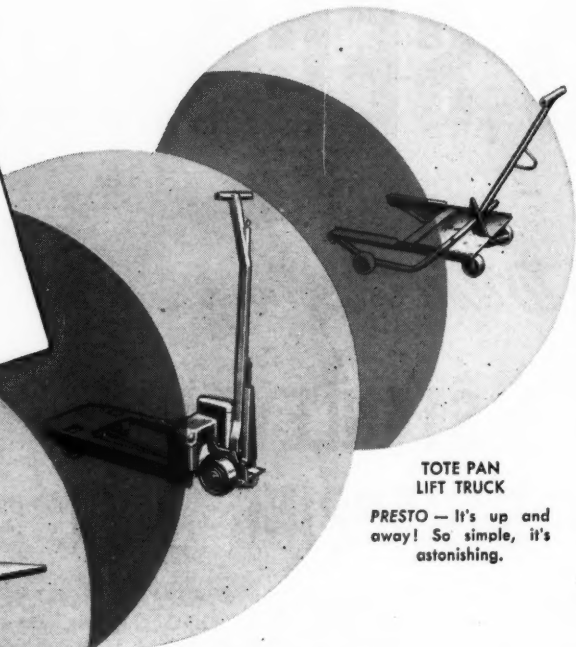
CLEVELAND, JAN. 12-16

3 NEW Products
of LYON-Raymond
NEVER BEFORE ON DISPLAY
ANYWHERE!



SHEET & STRIP FEEDING TABLE—Hydraulic Elevation
Moderate priced unit developed by years of research.

NO STOOPING!
NO LIFTING!
NO TUGGING!



**TOTE PAN
LIFT TRUCK**

PRESTO — It's up and
away! So simple, it's
astounding.

SINGLE STROKE LIFT TRUCK

Very different. Lightweight. Streamlined.
An Innovation in Safety

ALL THREE SAVE HANDLING

SEE THESE LYON-Raymond PRODUCTS ON EXHIBIT

LYON-Raymond
CORPORATION
662 Madison St.
Greene, N. Y.

HYDRAULIC Pallet Lift Truck
HYDRAULIC Lift Truck for Skid Platforms
HYDRAULIC Elevating Table
HYDRAULIC High Lift Truck—Telescopic—Power Elevation

IF YOU'RE HUNTING A WAY TO

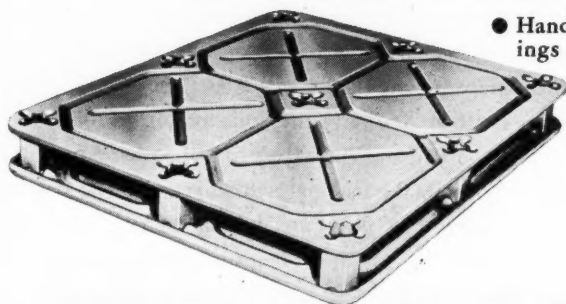
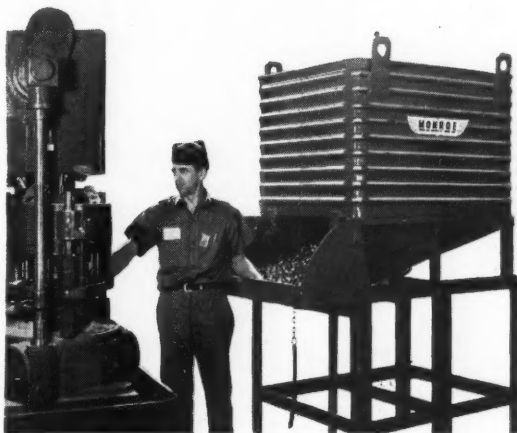
CUT DOWN COSTS

SEE **MONROE** at the **CLEVELAND SHOW***

Monroe Drop-Bottom Boxes and 8-Way Steel Pallets are *production-proved* time and money savers. They can be used in a wide variety of ways to increase production, lower labor and handling costs and streamline plant and shipping operations.

Don't miss Monroe's Exhibit at the Materials Handling Exposition. See the Drop-Bottom Box and 8-Way Steel Pallet in action. Learn how they can save time and money for you.

MONROE DROP-BOTTOM SKID BOX *Combination Skid Box and Hopper*



- Hand lever releases bottom of box, sliding forgings, stampings and other small parts into convenient waist-high tray.

- Gravity-flow keeps parts constantly available in convenient work position.

- Eliminates stooping, bending and reaching—cuts labor and material handling costs up to 20%.

- Drop-Bottom Box is easily handled by any high lift truck for quick removal or replacement on assembly and production lines.

- Available in 6 different sizes and weights—of rugged hot rolled steel construction.

- A steel work stand available to fit each box.

MONROE 8-WAY STEEL PALLET *Streamlines Handling and Shipping*

- Unique construction permits entry of fork truck from any of 8 different directions—pallet truck from 4 directions.

- Easy entry speeds loading, unloading, placing shipments in cars, stowing and selection.

- Bottom sections cut out for pallet truck wheels—large bearing surface for stacking—hollow posts permit tiering with stakes.

- Strapping can be located to suit load—adaptable to rope sling loading.

- Single 40 x 48-inch size fits snugly end-to-end in freight cars or side-by-side in trucks—no waste shipping space.

- Anchored posts crimped solidly—no welds to break. High tensile steel construction. Made in 69-lb. or 96-lb. weights.

***SEE MONROE PRODUCTS** at the Materials Handling Exposition in Booth No. 312 at Cleveland Public Auditorium—Jan. 12-16, 1948.



MONROE AUTO EQUIPMENT CO.
MONROE, MICH.

VERTICAL HIGHWAYS

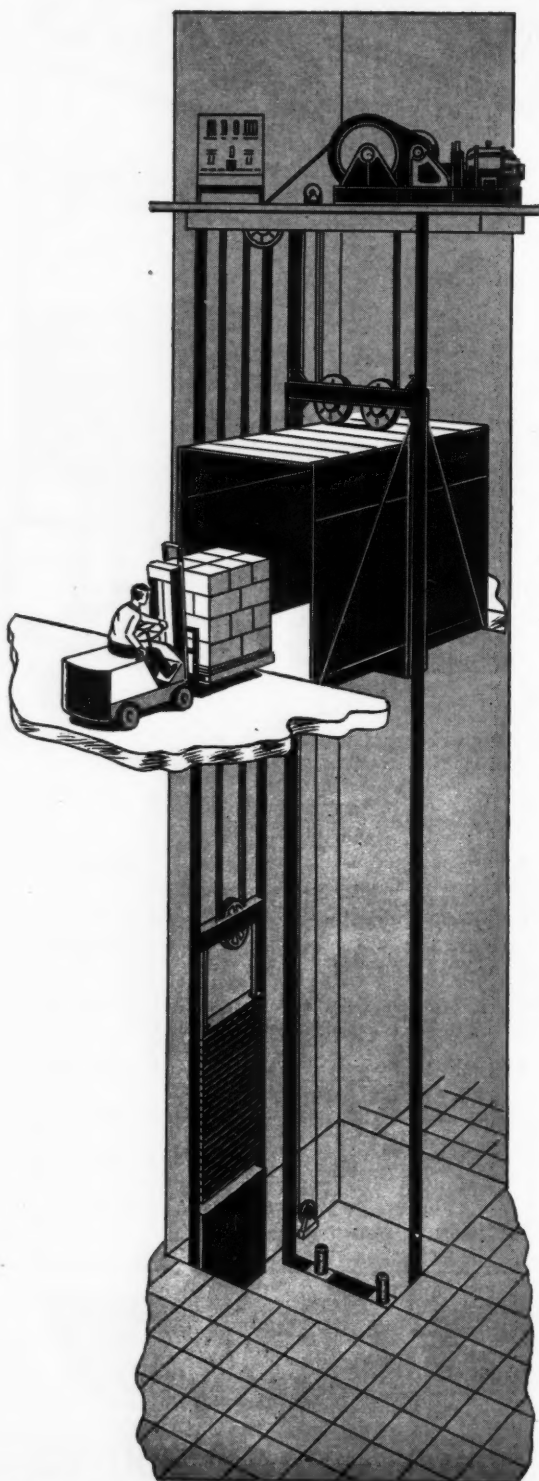
for power truck traffic

Otis Pow-R-Truck Elevators are specifically designed to withstand industrial truck loading

NO LONGER need power trucks in multi-story buildings be chained to one level. For Otis now offers you a standardized line of freight elevators designed especially to take the off-balance and impact loading you get with fast, heavy industrial trucks.

The structure of the Pow-R-Truck elevator car is built extra heavy and special reinforcing members are used. This prevents distortion when truck wheels concentrate the weight of the load and truck on one edge of the platform. Heavy-duty hoisting machines "level" the elevator with its heavier load—and re-level it during loading so that impact is reduced to a minimum. The entire installation, including safety devices, is specially designed with ample safety factors.

Free Bulletin 705F gives the full story of Pow-R-Truck Elevator construction and shows how these elevators are built to multiply the usefulness of your industrial trucks by the number of floors in your building. Write for your copy to: Otis Elevator Company, 260 Eleventh Ave., New York 1, N. Y.

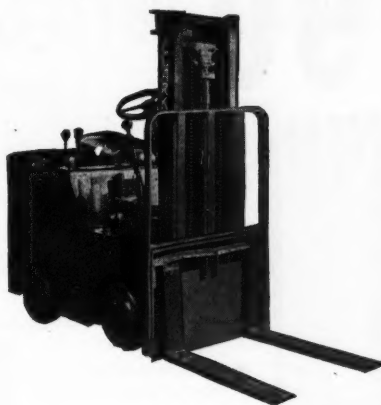


typical POW-R-TRUCK ELEVATOR installation



ELEVATOR COMPANY

*Serving the industrial needs of
America through 253 local offices*



NEW and USED ALL GUARANTEED AS NEW

OUR STOCK AS OF NOVEMBER 15, 1947:

Automatic 3,000-4,000-5,000- 6,000-10,000-lb. Fork Lifts	Lewis & Shepard 4,000-lb. Fork Lifts
Baker 4,000-6,000-lb. Fork Lifts	Mercury 4,000-5,000-lb. Fork Lifts and Tractors
Clark 1,000-2,000-4,000-6,000- 7,000-lb. Fork Lifts	Ross 6,000-10,000-lb. Fork Lifts, 7½ and 12-Ton Strad- dle Trucks
Crescent Electric and Gas Tractors	Towmotor 4,000-5,000-6,000- 10,000-lb. Fork Lifts
Elwell-Parker 4,000-5,000- 6,000-lb. Fork Lifts	Yale 4,000-6,000-7,000-lb. Fork Lifts

YOU'LL FIND US HERE

(RIGHT ACROSS THE STREET)



Packard Limousine Service From
Our Outdoor Exhibit To Our
Warehouse—5 Minute Ride



(WE ARE EXCLUDED FROM THE MATERIAL HANDLING SHOW BECAUSE WE CARRY WAR SURPLUS)

HARRY M. RICHTER, Inc.

CLEVELAND 2, OHIO—Phone ATlantic 1631, 7:30 to 4

Foot of W. 45th St.—Former American Shipbuilding Yard—First turn toward
lake west of High Level Bridge off Bulkeley Blvd. 5 minutes from Square.

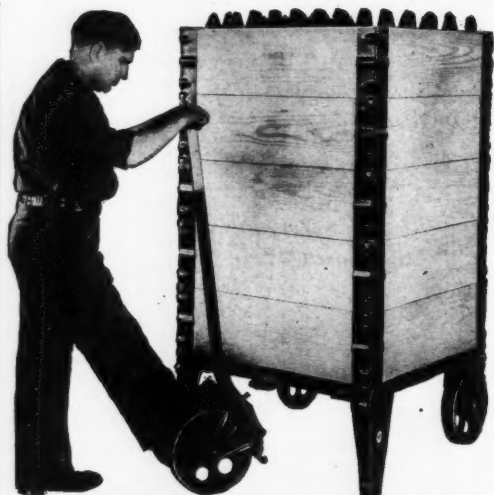
OWNED. OPERATED AND MANNED BY VETERANS OF WORLD WAR II

SAVE 50%

FLOOR SPACE EQUIPMENT COST LABOR COST

with the

TURNER SYSTEM OF MATERIALS HANDLING



The Transport is half-truck, half-platform, has the advantages of both, the disadvantages of neither.

- Co-ordinates all steps in handling materials.
- Provides vertical expansion of loads to ceiling.
- Standardizes every Box, Bin, Shelf and Rack . . . makes every unit quickly movable.
- Puts all materials within arms' reach of the operator.
- Lasts indefinitely . . . every unit welded or riveted . . . wheels and roller pins only moving parts.



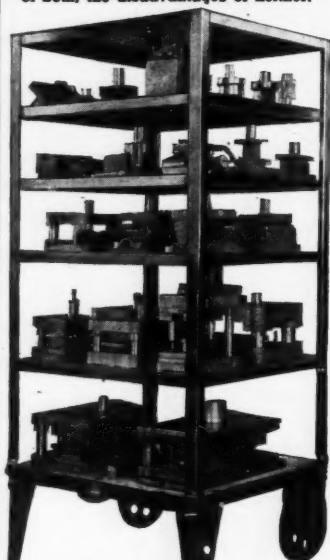
Wooden-side Bin Sections on Pallet stacked on All-steel Bin Sections on Transport.

DELIVER THE BIN AND SAVE THE HANDLING

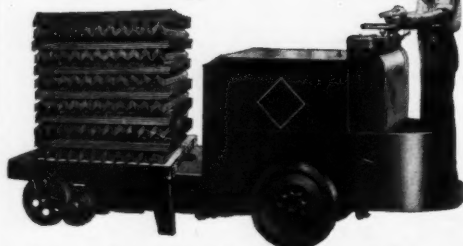
When you "deliver the Bin" instead of removing small parts piece by piece from stationary bins, you save up to 80% of the time required for transportation of materials to machines. Wooden-side or All-steel Bin Sections, Racks, Trays, Die Tables and Superstructures fit on the Transport which is moved by hand jimmy, power lift truck, crane or tractor.

60 DAYS FREE TRIAL

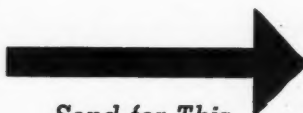
You can determine for yourself how much you can benefit from the TURNER SYSTEM by using an assortment of standard units on a 60 DAYS FREE TRIAL basis. Try these units for two months. Keep them if (in YOUR opinion) they save labor, time and space. Return them if they don't . . . and you pay nothing except low transportation charges.



Die Rack fits on Transport.

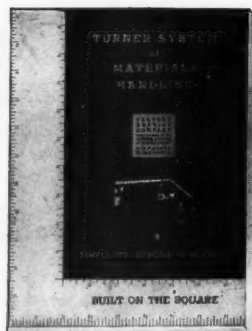


Turner units are moved by all modern methods.



Send for This
NEW IDEA BOOK

Just off the press, the TURNER SYSTEM BOOK describes a plan for cutting labor, handling and storage expense . . . speeding production, reducing accidents. The book is sent without charge.



FACTORY SERVICE COMPANY

4607 NORTH TWENTY-FIRST STREET

MILWAUKEE 9, WISCONSIN

Huge Industrial Plant Keeps Big Truck Fleet At Top Efficiency

GENERAL ELECTRIC RECTIFIERS
located at six strategic points to cut
off-duty time and speed operations



A bank of four G-E rectifiers is strategically located at the scene of action, to keep four busy trucks on the job. The trucks are on 24-hour service, switching batteries between shifts. Under-ground conduit connections, quick roll-out racks, and automatic charging contribute to easy operations.

Helping to solve a difficult materials handling problem at Bakelite Corporation's Bound Brook, N. J., plant, twenty-two General Electric copper-oxide rectifiers are used to meet the requirements of widely separated truck operations. Charger stations are located in various manufacturing, storage, and shipping areas, in order to be readily available for between-shift charging. They are also used for giving truck batteries a quick boost if it is needed during work periods.

These efficient General Electric chargers service a number of different types of trucks which have 12-, 15-, or 18-cell batteries. Some are in constant use, others are on a standby basis.

Shipping department truck batteries are charged at this ten-rectifier station. Batteries are moved by chain hoist to charging platform, and connected to cable leads running to individual rectifiers. Once the batteries are on charge, they require no further attention, because the G-E charger automatically cuts off when the charge is completed.

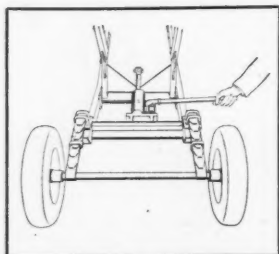
But all have had a consistently fine record of low maintenance and economical operation. Many have had no repairs of any kind for two years, and there has not been one major failure in the five years in which this type of equipment has been in use at Bakelite.

Performance like this is typical of General Electric charger installations throughout industry. If you would like to know how this equipment can make your materials handling problems easier, too, we'll be glad to send you a copy of our book *Aids To Economical Faster Materials Handling*. Just write to Section A83-136, Appliance and Merchandise Department, General Electric Company, Bridgeport 2, Connecticut.

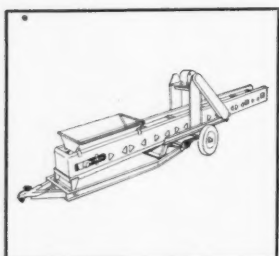
GENERAL  **ELECTRIC**

POWER-MAX *Serva-Belt* CONVEYOR

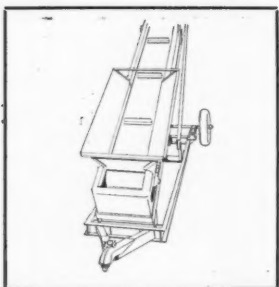
HAS GREATER PORTABILITY IT TOWS LIKE A TRAILER



Hydraulic lift permits operating conveyor at level or full 37° angle. Has safety locking feature.



Equipped with 4.00x8 Pneumatic Tires and automobile type springs . . . can also be furnished with 6.00x16. Rides better, easier, safer.



Large hopper. Rubber belt of ply canvas construction has full steel 1 in. cleats that are cushioned in rubber for longer life. Other size cleats available. Trailer type hitch.

Visit Us At Booth 721
Distributors Inquire, Now.



Engineered better . . . built better . . . for handling all bulk materials. Place it in a permanent location . . . or tow it anywhere in or outside the plant.

Ideal for conveying coal, sand, gravel, stone, cement, chemicals, steel chips—grains, foodstuffs, meats—castings, machined parts, and many others.

Can be furnished with Gas Engine or Electric Motor. Integral standard models in 14 ft. and 20 ft. lengths. 5 ft. or longer sections can be furnished. Centrifugal Clutch is completely automatic . . . Drive Belt is completely guarded.

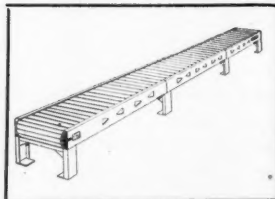
SERMAT CONVEYOR CORP.

2358 W. 58th St.

Chicago 36, Ill.

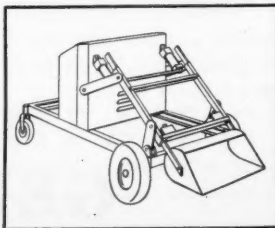
POWER-MAX Flex-E-Unit* CONVEYOR

Steel flights and chain are one integral unit . . . assures smoother, steadier action. Standard links 3 in. or 6 in. pitch. Widths, 12", 18", 24", or 36". Other sizes on special order. Std. speed 30 ft. per min. Other speeds special. *Steel Belt.



POWER-MAX Serva-Scoop

Completely hydraulic drive for wheels, steering, and hoisting mechanism. It's a brute for strength . . . flexible in operation. Scoop has more than 4 cu. ft. cap. Turns in 8 ft. circle. Narrow enough to go through standard doors. For bulk materials—grains, chemicals and others. 6 H.P. air cooled gasoline engine is economical to operate.



Send For Information
SERMAT, 2358 W. 58th St., Chicago 36

Company Name.....

Individual's Name.....

Title

Address

City..... State.....

ANSWERS slings QUESTIONS

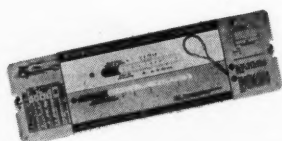


NO MATTER WHAT YOU WANT to know about slings, the answer is between the covers of the Roebling Sling Data Book. 70 pages of facts about hoisting and loading materials. Details about the design, construction and use of slings and sling accessories. Information to help you handle all

kinds of loads with speed and safety.

The Roebling Sling Data Book is arranged for easy use, clearly written and illustrated with photographs of various actual hoisting operations. Diagrams and tables furnish necessary technical data, and there's an accompanying price list and instructions for ordering.

The *right* slings, used *right*, can help you speed your materials handling all along the line. Write today for your free copy of this helpful data book. Ask for booklet A-899.



There's no guesswork about hoisting—with the Roebling Sling Calculator. This simple slide rule shows instantly the right size of sling for any weight or type of load—includes tables for figuring headroom and other valuable data. Send the coupon for both the Sling Data Book and the handy Sling Calculator, too!

JOHN A. ROEBLING'S SONS COMPANY
TRENTON 2, NEW JERSEY
Branches and Warehouses in Principal Cities

ROEBLING A CENTURY OF CONFIDENCE

★ WIRE ROPE AND STRAND ★ FITTINGS ★ SLINGS
★ SUSPENSION BRIDGES AND CABLES ★ AIRCORD,
AIRCORD TERMINALS AND AIR CONTROLS ★ AERIAL WIRE
ROPE SYSTEMS ★ ELECTRICAL WIRE AND CABLE
★ SKI LIFTS ★ HARD, ANNEALED OR TEMPERED
HIGH AND LOW CARBON FINE AND SPECIALTY WIRE,
FLAT WIRE, COLD ROLLED STRIP AND
COLD ROLLED SPRING STEEL ★ SCREEN, HARDWARE
AND INDUSTRIAL WIRE CLOTH ★ LAWN MOWERS

John A. Roebling's Sons Company
Dept. 316, Trenton 2, New Jersey

Gentlemen: Please send me without obligation:

☐ Roebling Sling Data Book ☐ Sling Calculator

Name

Title

Company

Address



Demonstrated in experimental form at the First National Materials Handling Exposition, the Clark PUL-PAC "stole the show." Throughout the intervening year, this revolutionary new materials handling device has been refined and improved to the point where *industrial users*, after putting it to months of testing in warehouses and other installations, have accorded it their enthusiastic approval.

THE CLARK PUL-PAC IS NOW IN PRODUCTION!



ELECTRIC BATTERY-POWERED Model

MATERIAL HANDLING *News*

The PUL-PAC is a "push-pull" attachment which enables a Clark fork truck to lift, carry and tier many types of material assembled in unit loads based on disposable or durable sheets of corrugated paper, fiber board or similar inexpensive material.

Here is the one and only method of handling many types of unit loads that does not require conventional pallets or skids . . . practical to the Nth degree, and destined by its merits to be perpetually modern . . . offers unparalleled opportunities for big savings . . . a method made possible by Clark's revolutionary new handling tool—the PUL-PAC.



1. Pulling the Load Onto the Load-plate



2. Carrying the Load to Destination



3. Pushing the Load Off at Destination

PULLS THE LOAD ONTO THE LOAD PLATE

This unique device consists of a vertical sliding rack which travels horizontally above the truck's wide load-plates, with a gripper device at its base. To pick up a load, the rack is moved forward and the gripper opens automatically to receive the projecting edge of the load-base sheet. When the rack is retracted, powerful hydraulic pressure closes the gripper firmly upon the load-base sheet; the load then is pulled onto the load-plate. See picture No. 1. Lifting, tilting and lowering are done in the usual manner. See picture No. 2.

PUSHES THE LOAD OFF AT DESTINATION

At destination, the operation is reversed. The "push" mechanism is used to hold the load over the desired area while the load-plate is removed. Where tiering is against a wall or other backing, the truck is put in "neutral", allowing it to move backward from the force of the thrust against the load; hence the load-plate is withdrawn. Where there is no backing, reverse power is used to move the truck, with synchronization of pushing speed and vehicle speed. See picture No. 3.

TIERS UNIT LOADS SECURELY

With the PUL-PAC, maximum compactness can be achieved both in storage and in freight car and trailer shipments; this is an economic advantage of paramount importance. Another benefit in this direction is the use that can be made of carrier sheets as freightcar liners.

The PUL-PAC has been tested for months in various installations and has proved highly successful in handling many kinds of packaged materials.

Full details on this remarkable new materials handling method and device may be obtained quickly by writing to the Clark Equipment Company, Tractor Division.

Materials Handling "problems" really are opportunities to effect savings. For experienced, expert help in developing such opportunities:

CONSULT CLARK

New Material Handling News

Achievement of unrivaled quality at reasonable cost results from manufacture by Clark of many major units for its own machines. Write for and read the story in the current Material Handling News.



CLARK GAS OR ELECTRIC POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS



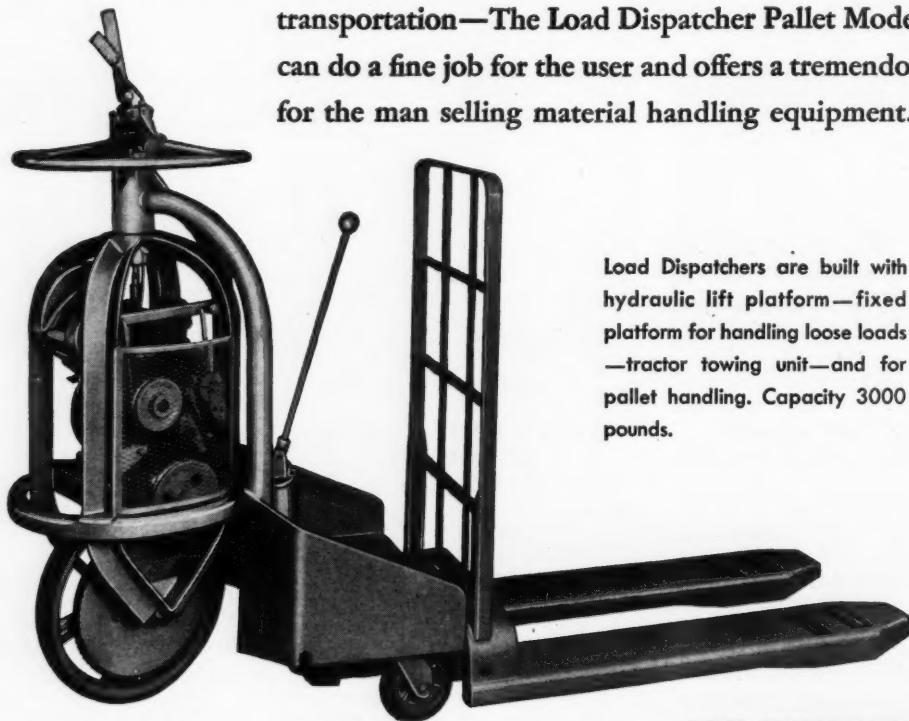
CLARK EQUIPMENT COMPANY, TRACTOR DIVISION, BATTLE CREEK 13, MICH.
REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

**BOOTH
325**

MATERIAL HANDLING EXPOSITION

**WILL BE WELL WORTH YOUR VISIT
TO CLEVELAND WHETHER YOU ARE
A DISTRIBUTOR, DEALER, OR USER**

The new 1948 Load Dispatcher models—Hydraulic Lift—Fixed Platform—Tractor Towing Unit—will be on exhibit and there will be shown an entirely new development in pallet transportation—The Load Dispatcher Pallet Model—which can do a fine job for the user and offers a tremendous market for the man selling material handling equipment.



Load Dispatchers are built with hydraulic lift platform—fixed platform for handling loose loads—tractor towing unit—and for pallet handling. Capacity 3000 pounds.

There are thousands of material handling jobs that the Load Dispatcher will do better, quicker, and with a saving of money. That's because it *excels in maneuverability—ease of handling—getting around where the going is tight, and for economy.* It has many features of convenience, unique and exclusive, in its power unit and platforms that adapt it to an endless variety of materials and containers. Its quality is unsurpassed and the price is low. It is truly "A Remarkable Truck at a Remarkable Price."

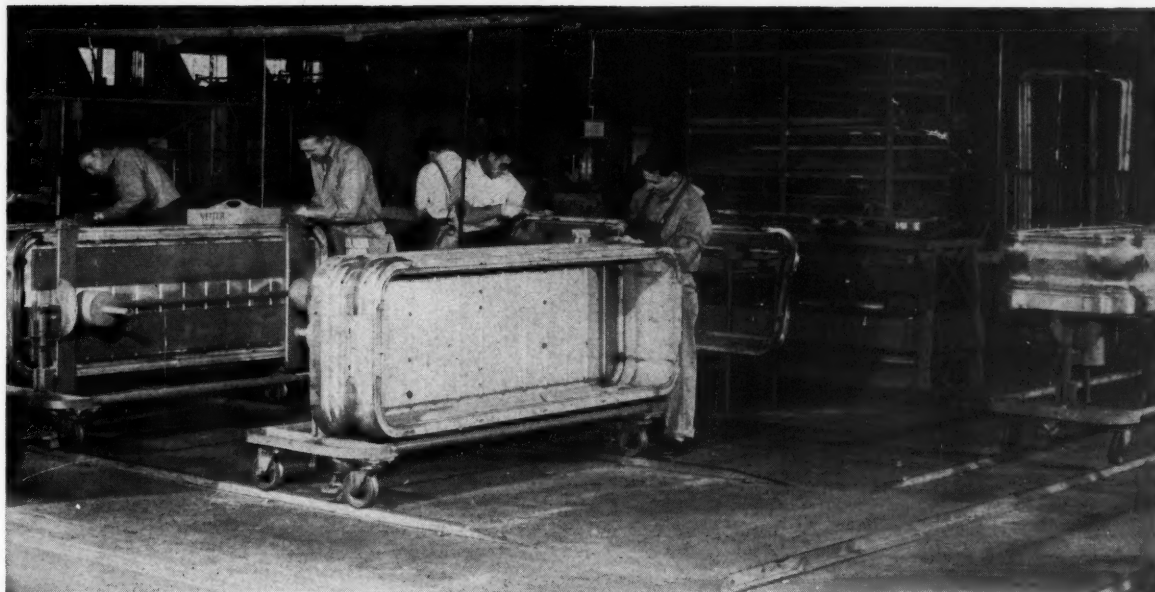
SEND FOR NEW CATALOG

SCHWITZER-CUMMINS COMPANY

**MATERIAL HANDLING
TRUCK DIVISION**

1145 EAST 22nd STREET • INDIANAPOLIS 7, INDIANA

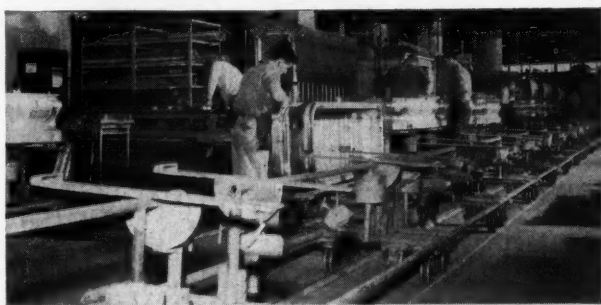
**SOME
VALUABLE TERRITORIES
OPEN FOR DISTRIBUTORS
WHO CAN QUALIFY**



Ryan's "Grecian Urn" casket is assembled on dollies having grooved casters which run on angle iron track.

New Ryan Production Line Rolls on BASSICK

Grooved Wheel Casters



Production dollies carry the "Grecian Urn" to work stations. Casters run equally well on or off the track.



Smooth, quick, orderly movement through all stages of production is achieved by means of Bassick grooved wheel casters on angle iron track.

Ryan Aeronautical Company of San Diego, Calif., are now producing in large volume beautiful chrome nickel steel caskets. The most modern production and assembly line layouts using Bassick grooved wheel casters on angle iron floor track provide important economies and faster, easier handling. Bassick Position Locks hold assemblies rigidly in place at work stations.

During the war, most aircraft manufacturers installed the Bassick grooved wheel caster system for their assembly lines. The low first cost of this system, plus its inherent flexibility and economy of operation have since brought about its adoption in scores of other industries.

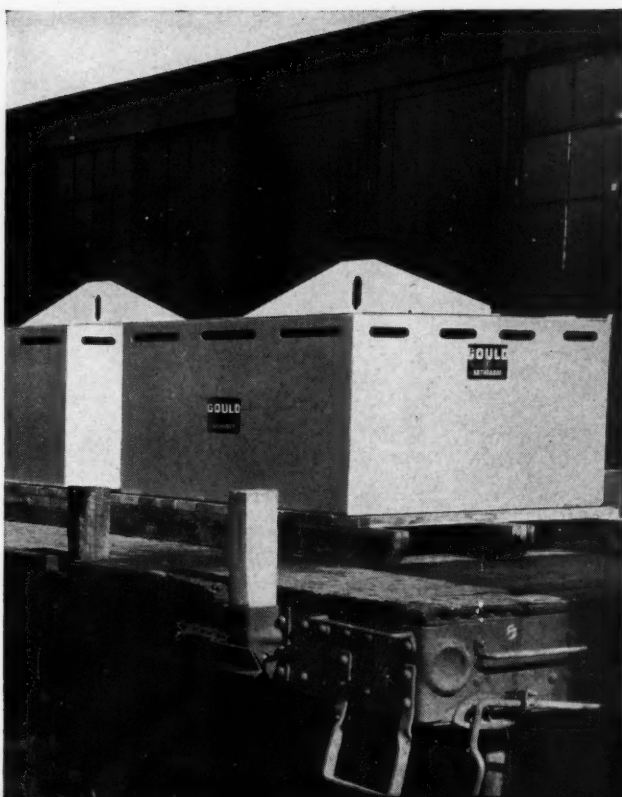
If you'd like further information regarding the advantages of grooved wheel casters on angle iron floor track, write: THE BASSICK COMPANY, Bridgeport 2, Connecticut, Division of Stewart-Warner Corporation. *Canadian Division:* Stewart-Warner-Alemite Corporation, Ltd., Belleville, Ont.

Making more kinds
of Casters...
Making Casters
do more

Bassick

**GOULD
PLUS PHILCO
EQUALS
BETTER
DELIVERIES**

Pictured at right—Six tons of dependable, stop-and-go power for the largest ram trucks ever built.



**Another way you profit by
the GOULD-PHILCO merger***



Write for Catalog 100 on Gould Batteries for Industrial Trucks.

Two great factories—one at Depew, N. Y. and the other at Trenton, N. J.—mean that Gould can better protect you on deliveries, regardless of fire, material shortages or shut-downs.

Through the combined "know-how" of the two factories, you benefit with the most advanced plant and engineering developments.

The Gould-Philco merger means better deliveries, better batteries—and better service.

No wonder Gould is more than ever the Choice of Engineers.

*The Storage Battery Division of Philco Corporation was merged with the Gould Storage Battery Corporation on June 28, 1947. The consolidated organizations are operating under the name of Gould.

GOULD



Gould Storage Battery Corporation

Including the Philco Corporation, Storage Battery Division
Depew, New York Trenton, New Jersey

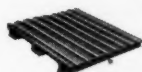
Sales and service representatives
in thirty-one principal cities

BATTERIES

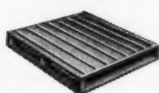
POWELL

**ALL STEEL
MATERIAL HANDLING EQUIPMENT**
For Every Requirement

PALLETS



Design 113
All Steel



Design 103
All Steel



Design 106
Wood-Steel

BOTTOM DUMP ASSEMBLIES



Style 310
Fork Type



Style 312
Roll-Over



Style 311
Platform Type

CRANE TIERING BOX PLATFORMS



Style 202A

CASTER BOX



Style 309

LIFT TRUCK PLATFORMS



Style 2

CORRUGATED STEEL BOX PLATFORM



Style 200

SPECIAL HANDLING EQUIPMENT



Style 410
Stacking Pallet
Rack



Style 310A
Bottom Drop
Caster Box

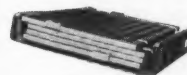


Style 206
Stacking Pallet
Box

COLLAPSIBLE CONTAINERS



Assembled



Knocked Down

The name **POWELL** is a guarantee of equipment which is unsurpassed in durability, design and adaptation to the job. Our engineering department is available for consultation—no obligation, of course.

Representation in Principal Cities

THE POWELL PRESSED STEEL CO.—HUBBARD, OHIO

"ORIGINATORS of Cold Formed All Steel Handling Equipment"

There's a Buschman "Better-Built" Conveyor for



PORTABLE
ROLL AND WHEEL
CONVEYORS

RECEIVING

STORAGE

PRODUCTION

INSPECTION

SUB-ASSEMBLY

FINISHING

PACKAGING

WAREHOUSING

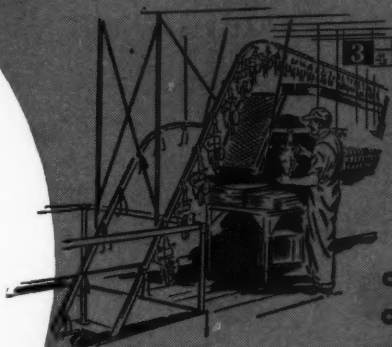
SHIPPING

From receiving to shipping dock . . . through every operation in your plant, there's a BUSCHMAN CONVEYOR to exactly fit your needs. Buschman Engineers offer you the most modern materials handling equipment and techniques. Whatever you make, take advantage of the many money-saving features found only in Buschman Engineered or Standard-Type Conveyors. Write for complete catalog.

THE E. W. BUSCHMAN COMPANY
INCORPORATED

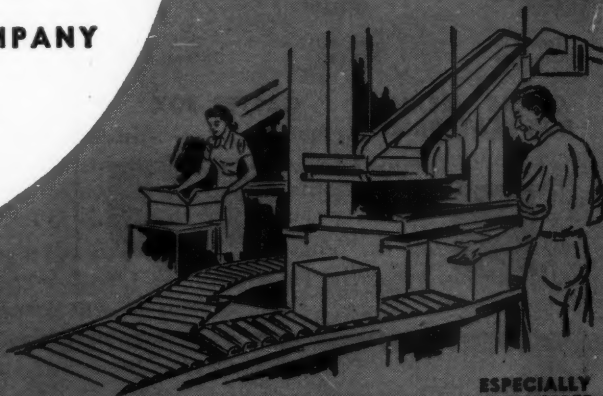
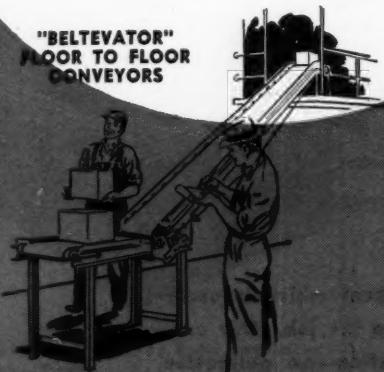
WINTON PLACE

CINCINNATI 32, OHIO



CABLE TYPE
TROLLEY
CONVEYORS

"BELTEVATOR"
FLOOR TO FLOOR
CONVEYORS



ESPECIALLY
ENGINEERED
CONVEYORS

Buschman

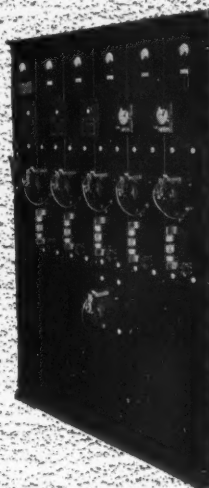
BUSCHMAN BETTER BUILT

SLAT CONVEYORS • BELT CONVEYORS • PUSHER BAR CONVEYORS
VERTICAL BARREL CONVEYORS • CHAIN TYPE TROLLEY CONVEYORS
LIVE ROLLER CONVEYORS • BUCKET CONVEYORS • TWO WHEEL HAND TRUCKS

Visit the BUSCHMAN Booth #63
at the 2nd National Materials
Handling Exposition in Cincin-
land, January 13-14th, 1946.



Illustrated from left to right, both with and without protective control covers are: Generator Control Section; Lead-Acid Battery Circuit; Lead-Acid Battery Circuit with Selector Switch; Two-Rate Charging Circuit; Edison Battery Circuit with Selector Switch; and Edison Battery Circuit.



NEW

EP

Sectionalized CONTROL PANELS for BATTERY CHARGING

- 1—**EASY TO INSTALL** . . . Shipped completely assembled, this lightweight panel is simply stood on its intended location and fastened to the nearest wall by two angle-iron brackets.
- 2—**EASY TO ADD MORE CIRCUITS** . . . Since each section comprises a complete charging circuit, it is only necessary to secure a few frame bolts; extend the main power bus with a jumper; and lengthen the control wires.
- 3—**STANDARDIZED CONSTRUCTION** . . . Illustrated above are the standard generator control section and the five standardized circuit sections that meet all battery-charging requirements, lead-acid or Edison. The panel height of 76" conforms to the standard height of industrial switchboards.
- 4—**OCCUPIES LITTLE FLOOR SPACE** . . . Each section measures only 9" wide. Allowing a 24" clearance from the supporting wall to permit back-of-board inspection, a five-circuit panel occupies only 9 square feet.
- 5—**TOTALLY ENCLOSED CONTROLS** . . . All controls are mounted on the front of the board within protecting covers. Dust, dirt and other harmful elements are barred. Covers are easily removed (fastened with only one screw) to permit routine inspection and maintenance.
- 6—**PROVIDES VISUAL CONTROL OF CHARGING** . . . When indicating lamp at top of board lights, it indicates that the circuit needs attention; either placing a battery on charge or removing the completely recharged battery.
- 7—**UNIFORM APPEARANCE** . . . Matches the present-day trend toward improved industrial-product design.

This new sectionalized panel simplifies negotiation, ordering and manufacturing. It permits complete standardization. Special engineering is eliminated. The Buyer gets a better product within a shorter time.

SEE THIS CONTROL PANEL IN BOOTH 501—2nd NATIONAL MATERIALS HANDLING EXPOSITION—CLEVELAND, JANUARY 12-16

EP

X-31

THE ELECTRIC PRODUCTS COMPANY

1732 CLARKSTONE ROAD

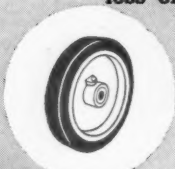
CLEVELAND 12, OHIO



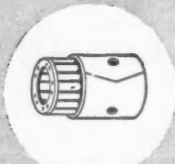
Light Weight
easy to handle



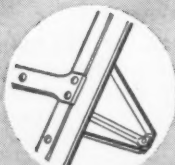
Perfect Balance
move more with
less effort



Wheels
cushion rubber-treads



Anti-friction Bearings
step up efficiency



All-Steel Construction
maximum strength



Dipped red enamel finish
lasting protection



ENGINEERED to STAY on the JOB

More than 20 years of service all over the world has proven the longer life of American Pressed-Steel Hand Truck construction.

SEE...

the American
Hand Trucks
At The Mater-
ials Hand-
ling Show

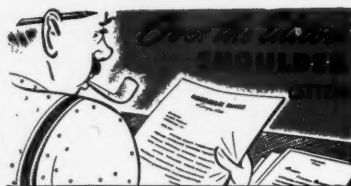
booth 437



The American Pulley Company

4206 WISSAHICKON AVE., PHILADELPHIA 29, PA.

AMERICAN
PRESSED-STEEL
HAND TRUCKS



To FLOW:

Bag Dumping

In our alkali manufacturing operations we handle a great many bags of various sizes. At present, each bag requires a very appreciable amount of time for the simple acts of opening the bag and dumping the contents into a hopper. Presumably there is at least one method, and probably several, for opening and dumping bags quickly and with little effort.—R. A. Emmett, Jr., Research and Development Division, Detrex Corp., Detroit.

A bag dumper is now being manufactured and offered commercially.—Ed.

To FLOW:

Paint and Varnish Handling

Thank you so much for the FLOW articles on material handling for paint and varnish plants. I'm sure they'll be very helpful.—Alma Linxweiler, Bramble-Margeson-Odiorne, Inc.

To FLOW:

Spiral Conveyors

Kindly advise us via return mail list of manufacturers to contact that manufacture spiral conveyors.—Milton A. Hawkins, Manufacturer's Sales Rep., New Orleans. *More than a dozen company names have been sent Reader Hawkins, both on friction type and roller type spiral conveyors.—Ed.*

To FLOW:

Flow Equipment Directory

We have read about your intentions of publishing a "Material Handling Directory". It certainly sounds as if we should have one.—Landon Martin, Assistant Factory Mgr., Cruden Martin Manufacturing Co., St. Louis. *Reservations for the DIRECTORY, scheduled for early delivery, are now being accepted.—Ed.*

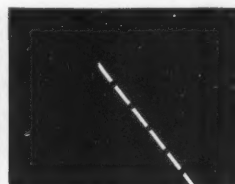
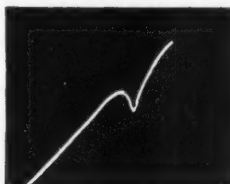
WHY MAKE THE SAME MISTAKE **TWICE?**

WASTE REPEATED! First when parts go into storage—again when they come out! Above, a light bulb on the worker's wrist shows the double waste of loading and unloading by hand!

Unloading is the first mistake . . . re-loading is the second. And above you see an actual photographic record of the time and effort involved.

You can eliminate all this! Barrett Lift-trucks and Skids put an end to repeated piling and unpling. Your loads stay on the skids . . . always ready to roll with a sweep of the lift-truck handle!

Together, Barrett Lift-trucks and Skids move materials so quickly and easily—from machine to machine, floor to floor, or in and out of storage—that one man with a Barrett can actually outwork 3 or 4!



WASTE ELIMINATED! With Barrett Lift-trucks and Skids, the Skid stays with the load. One move frees the Lift-truck for other work. Again, one move picks up the stored materials—no reloading!



Make no mistake—this Barrett System pays! Ask a Barrett engineer for a demonstration.



A bookful of money-saving ideas—yours for the asking. Write for your free copy of the Barrett Junior Catalog!

BARRETT-CRAVENS COMPANY

4619 S. Western Blvd.

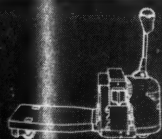
Chicago 9, Illinois

Representatives in All Principal Cities

Canadian Licensee: S. A. Armstrong, Ltd. • Toronto, Canada

BARRETT

ONE MAN DOES MORE THAN 3 OR 4 . . . WITH A BARRETT



C&D

Third largest manufacturer of industrial lead storage batteries



Manager, Washington Division



Manager, New York Division



Manager, Philadelphia Division



Manager, Central Division

Invites you to visit Booth 7
Materials Handling Exposition
Cleveland, January 12-16, 1948



- 1 MEET the C & D Organization and see for yourself why this 42-year-old company is making such rapid strides in the Materials Handling Industry.
- 2 LOOK over the complete line of C & D Aircool electric industrial truck batteries . . . Diesel starting batteries . . . and the new polystyrene plastic telephone batteries.
- 3 ASK for a demonstration of internal cell construction showing every detail of C & D Fourfold (quadruple insulated) heavy-duty design . . . and learn how extra tonnage and lower guaranteed costs will help your materials handling operation.

C & D Batteries Inc., Conshohocken, Pa.—*Building Better Batteries for more than 40 years*

HEAVY DUTY BATTERIES FOR ELECTRIC INDUSTRIAL TRUCKS • ELECTRIC LOCOMOTIVES • DIESEL LOCOMOTIVES
AIR CONDITIONING AND CAR LIGHTING • TELEPHONE • MARINE • AUXILIARY POWER
STARTING AND LIGHTING BATTERIES FOR MOTORCYCLES • AUTOMOBILES • TRUCKS • BUSES • INDUSTRIAL EQUIPMENT

THE SHOW

and the Cost Spiral



WORD has come recently that the high policy committees of the major labor unions in the United States have met and are committed to general wage boosts all down the line.

This means that all basic commodities will climb another rung in the inflationary spiral through which this country is now passing. Every time a rung is climbed a large group of manufacturers gets hurt. No matter how fluid business is, it is difficult to meet a cost increase with an immediate price increase. So there is always a time lag, which usually means months of operation at a loss. This time lag frequently also means the difference between profit and loss in the company statement at the end of the year.

Every business executive faces such a prospect with serious misgivings and naturally asks himself what can be done to minimize or completely eliminate these losses.

If there is an answer to this problem it is in the direction of lowering other manufacturing and overhead costs. With direct labor on the rise and other expenses following closely, it becomes more necessary than ever for industry to become more efficient. Unquestionably there is more inefficiency in the handling of materials than in many other phases of manufacturing.

All of this points to the increased importance of the forthcoming MATERIAL HANDLING EXPOSITION being held in Cleveland January 12-16. On display and in operation will be practically ALL types of equipment which industry needs for keeping profits in the corporate picture.

Three times as much space will be used and three times as much equipment will be on display at this show than at the first one. More than double the number of firms will be displaying their wares. Throughout this issue of FLOW will be found detailed listings of the types of equipment that will be on display, and who will be in attendance in the booths.

The industrialist who does not attend the second Annual Material Handling Exposition, or have some one from his organization there, will miss a real opportunity to see the newest developments which are designed to help his production, lower his costs and increase his profits. No one can say that he can't afford to attend. Everyone has too much to gain by attending.

Irving B. Hexter

Publisher

THE SHOW

Here they are

Here is a complete listing of exhibitors and their booth numbers.

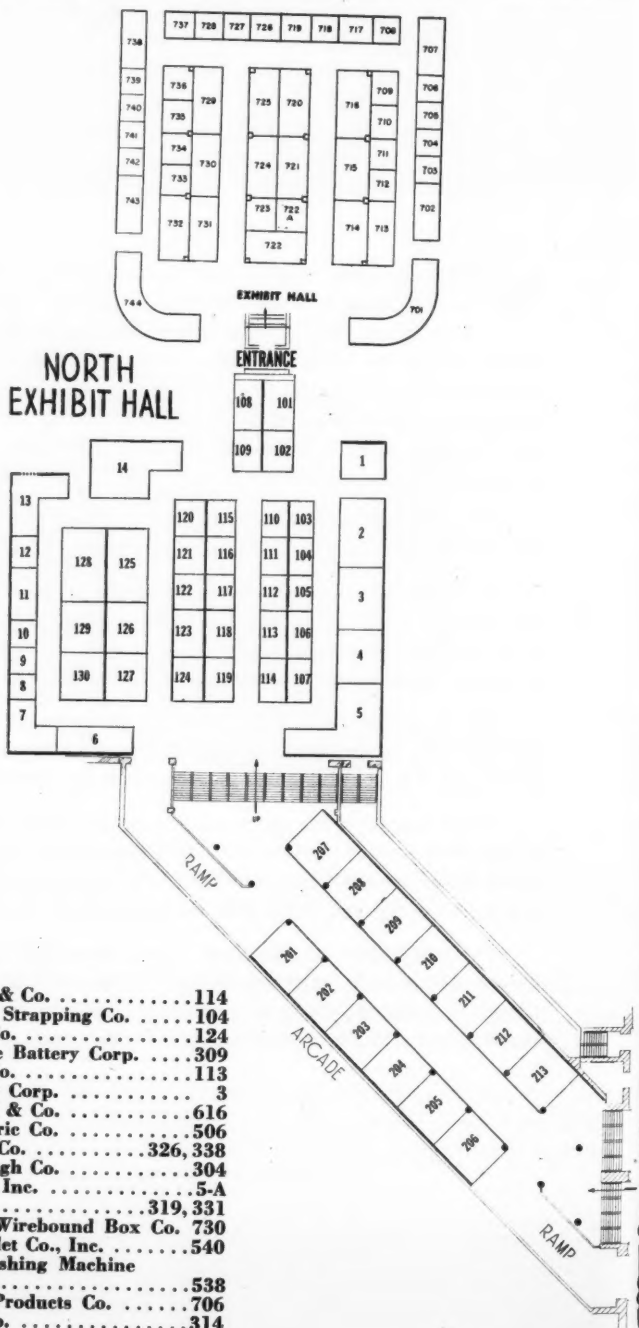
Federal Telephone and Radio

Corp.	211
Harry J. Ferguson Co., Inc.	6
FLOW	722
General Box Co.	8, 9
General Electric Co.	337
Geneva Metal Wheel Co.	205

Ironbound Box & Lumber Co.	311
Island Equipment Corp.	618, 619, 620
Joyce-Cridland Co.	543-B, 544
Kalamazoo Mfg. Co.	719
Keen Mfg. Corp.	532
Lanham Co.	12
Lansing Co.	737

EXHIBITOR SPACE NUMBER

Acme Pallet Co.	339
Acme Steel Co.	502
Addison-Semmes Corp.	528
Aerol Co.	713
Aeroquip Corp.	525
Albion Industries, Inc.	708
Alvey Ferguson Co.	731
American Engineering Co.	432, 433
American Machinist	207
The American Pulley Co.	437
Anthony Co.	4
Arkansas Pallet Corp.	530
Assn. of Lift Trucks & Portable Elevators	109
Atlantic Distributors, Inc.	741
Automatic Transportation Co.	404, 405, 406, 416, 417, 418
Automotive Rubber Co.	514
Baker-Raulang Co.	302, 303
William Bal Corp.	535
Barber-Greene Co.	520, 521, 522
Barrett-Cravens Co.	322, 334, 335
The Bassick Co.	118, 119
Beall Pipe and Tank Corp.	728
Bearing & Transmission Co.	316
Bell Aircraft Corp.	714
Benbow Mfg. Co.	740
Better Packages Inc.	519
Bosworth Mfg. Co.	717
Brainard Steel Division, Sharon Steel Corp.	424
Brummeler Steel Products Corp.	436
Buda Co.	209
Bureau of Ordnance, Navy Department	744
The E. W. Buschman Co., Inc.	403
C & D Batteries, Inc.	7
Caster & Floor Truck Manufacturer's Assn.	101
Chisholm-Moore Hoist Corp.	526
City Machine Co.	704
Clark Tractor	407, 408, 409, 419, 420, 421
Cleveland Wire Spring Co.	505
Coffing Hoist Co.	204
Colson Corp.	411
Comet Mfg. Co., Inc.	727
Conco Engineering Works	503
Conover-Mast Corp.	310
Conveyor Repair Service, Inc.	511
Crescent Truck Co.	301
Dempster Brothers Inc.	305
Distribution Age	516
Divine Brothers Co., Inc.	11
Drake, Startzmann, Sheahan, Barclay, Inc.	512
Economy Engineering Co.	121
Thos. A. Edison, Inc.	434
Electric Industrial Truck Assn.	5
Electric Products Co.	501
Electric Storage Battery Co.	115
Elizabeth Iron Works	123
Elwell Parker Electric Co.	426, 430
Equipment Manufacturing, Inc.	13
Fab-Weld Corp.	329
Factory Management & Maintenance	207
Fairbanks Co.	201
Faultless Caster Corp.	208



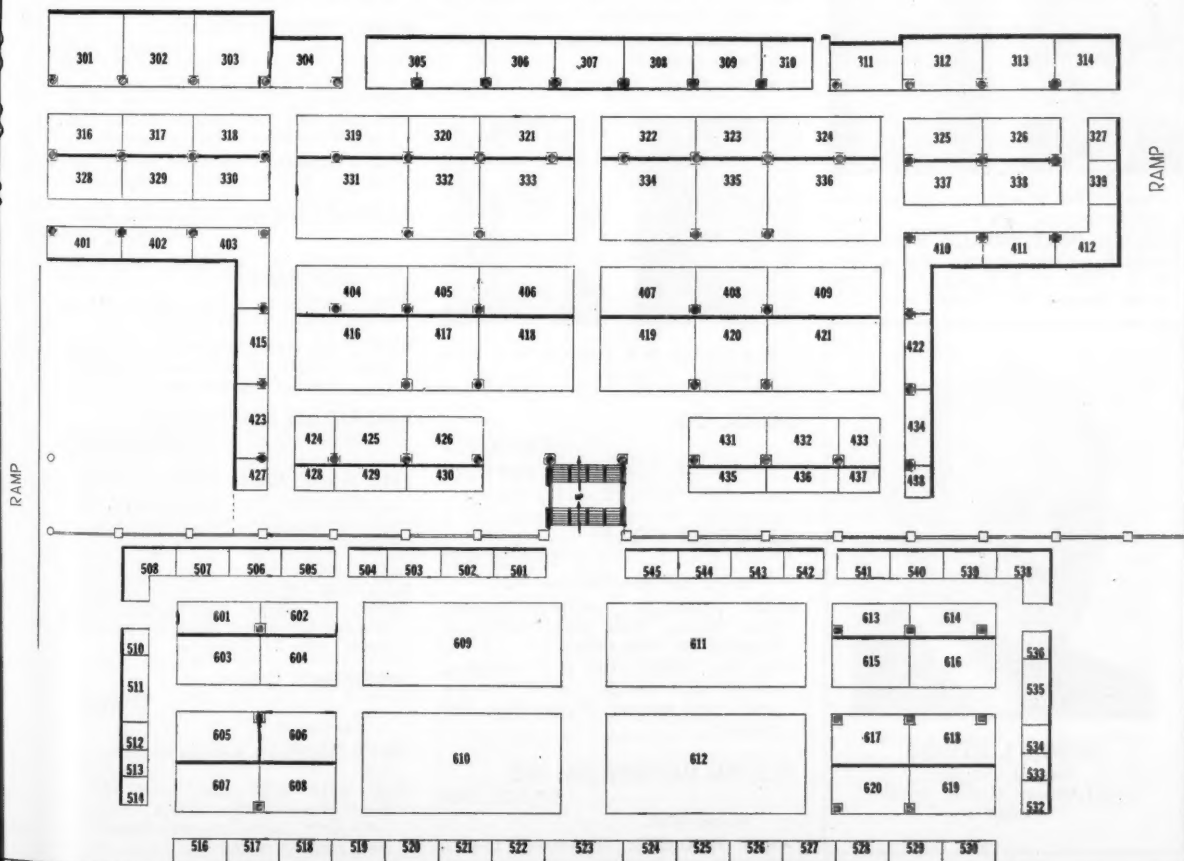
FLOW

Lawrence Pallet Exchange	529
G. B. Lewis Co.	545
Lewis-Shepard Products, Inc.	612
Locomotive Crane Assn.	743
Lyon-Raymond Corp.	328
Magline, Inc.	726
Magnesium Co. of America	410
Manning, Maxwell & Moore, Inc.	604
Mansaver Industries, Inc.	513
Marsh Stencil Machine Co.	103
Material Handling Institute	102
Material Handling and Power Transmission	313
Material Movement Industries 116, 117	
Mathews Conveyor Co.	308
May Fran Engineering Inc.	423
McGrath St. Paul Co.	534
Meese, Inc.	112
The Mercury Mfg. Co.	609
Merrill Brothers	438
Midwest Pallet Corp.	718
Midwest Precision Corp.	742
Mobilift Corp.	336
Modern Materials Handling	425
Monroe Auto Equipment Co.	312
Morrison Co.	306
Motor Generator Corp.	536
Moto-True Co.	318
National Metal Edge Box Co.	110
National Pallet Corp.	523
National Wooden Box Assn.	10
Nook and O'Neill, Inc.	212, 213
Nutting Truck and Caster Co.	402

Ohio Equipment Company, Inc.	122
Olach, Inc.	736
Orangeville Mfg. Co.	320
Otis Elevator Co.	524
Ozark Pallet Co.	517
Pallets Inc.	1
Pallet Sales Corp.	428
Pallet Systems Inc.	307
Patron Transmission Co., Inc.	533
Penton Publishing Co.	206
Pittsburgh Steel Products Co.	415
Powell Pressed Steel Co.	431, 435
Power Crane & Shovel Associates.	332
Preben Jessen Co.	108-A
Production Aids, Inc.	615
Rack Engineering Co.	106, 107
Rapids-Standard Company, Inc.	610-A
Ready-Power Co.	401
Re-Bo Mfg. Co., Inc.	518
Revolator Co.	203
Richards-Wilcox Mfg. Co.	412
Robbins & Myers, Inc.	429
Ross Carrier Co.	605, 606, 608
Rotary Lift Co.	14
David Round & Son.	715
Sabin Machine Co.	120
Saginaw Products Corp.	542
Schwitzer-Cummins Co.	325
Sermat Corp.	721
Service Caster & Truck Corp.	333
Sherman Paper Products Corp.	541
Signode Steel Strapping Co.	427
Silent Hoist & Crane Co., Inc.	330
Sisalkraft Co.	510

Skarnes Engineering & Supply Co.	504
Smith Power Transmission Co.	602
Speedways Conveyors, Inc.	202
Standard Conveyor Co.	508, 607
The Stanley Works	527
Steel-Parts Mfg. Co.	317
Sterling Bolt Co.	111
Stevens Appliance Truck Co.	703
Stratton Equipment Co.	614
Thermoid Rubber	717
Thomas Truck & Caster Co.	2
Towmotor Corp.	611
Tract-R-Lift Corp.	733
The Traffic Service Corp.	105
Transitier Truck Co.	610-B
Truck-Man Inc.	321
Truscon Steel Co.	617
The Union Metal Mfg. Co.	324
Unistrut Products Co.	210
Unit Crane & Shovel Corp.	610-C
Unit Mfg. Co.	705
Waterman Engineering Co.	543-A
Jervis B. Webb Co.	601, 603
Wehle Conveyor Co.	732
West Bend Equipment Corp.	323
Westinghouse Electric Corp.	613
Whiting Corp.	327
Whitney Chain & Mfg. Co.	539
The Wilkie Co.	709
Williford Mfg. Co.	422
Wirebound Box Manufacturers Assn.	507
Yale & Towne Mfg. Co.	125-130

UPPER EXHIBITION HALL



LOWER EXHIBITION HALL

THE SHOW

Directory of Exhibits...

men and products

Here is a complete listing of exhibitors in the second Annual Material Handling Show. Personnel and products are included where manufacturers furnished the data. Addresses are also given, and you may want to keep this reference for future use.

ACME PALLET CO., INC.

SPACE 339

17 Park Row, New York 7, N. Y.

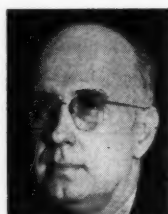
WHAT PRODUCTS: Various types of Pallets.
WHO WILL MEET YOU: Alfred R. Glassman, Vice President & Chief of Engineering; Gilbert Robinson, Engineer.

ACME STEEL CO.

SPACE 502

2840 Archer Ave., Chicago 8, Ill.

WHAT PRODUCTS: New streamlined light-weight coil holder, new tool mount and



complete line of steelstrapping equipment and accessories.

WHO WILL MEET YOU: J. G. Bucuss, manager; P. L. Dafoe, manager Central Sales; R. E. Crabb; W. E. Kramer; E. T. Irvine; J. W. Karstens; E. C. Evans.



EDWIN J. HEIMER
General Chairman
Second National Material Handling
Exposition

LEARN while relaxing during your visit to the Exposition. A worthwhile program of films showing efficient and economical operations has been arranged in the Material Handling Theater. Showings are continuous during the Exposition hours.

ADDISON-SEMMESE CORP.

SPACE 528

1800 Thurston Ave., Racine, Wisc.

WHAT PRODUCTS: Designers and Manufacturing Engineers.

WHO WILL MEET YOU: J. S. Addison,



D. R. Semmes, R. E. Frase and N. E. Mandernack.

AEROL CO.

SPACE 713

1823 East Washington Boulevard, Los Angeles, 16, Cal.

AEROQUIP CORP.

SPACE 525

300 S. East Ave., Jackson, Mich.

WHAT PRODUCTS: Breakaway Coupling, Hose Fittings, Hose Lines, Self-Sealing Couplings and Hydrauliscopes.

WHO WILL MEET YOU: L. J. Henderson, general sales manager; M. W. Brandau, assist. sales manager; Clark Field, sales engineer.

ALBION INDUSTRIES, INC.

SPACE 708

Albion, Mich.

WHAT PRODUCTS: "Endurance" Line of

Forged-Coin-Rolled Steel Casters and other types of Casters.

WHO WILL MEET YOU: Paul H. Sleeper,



President and General Manager; Stephen E. Janus, Sales Manager.

ALVEY FERGUSON CO.

SPACE 731

Oakley Station, Cincinnati, O.

WHAT PRODUCTS: Mergaflo Unit, Portable Adjustable Belt Conveyor, Chains, Trolleys and a Miniature Conveyor system.

WHO WILL MEET YOU: W. K. Stokes, Sales Manager; C. J. Becker, Sales Engineer.

AMERICAN ENGINEERING CO.

SPACE 432

Aramingo & Cumberland Aves, Philadelphia 25, Pa.

WHAT PRODUCTS: Lo-Hed Electric Hoists & Car Pullers.

WHO WILL MEET YOU: John C. Mevius, sales manager; C. A. Boecker, engineer; J. L. Taylor; D. W. Herbert.

AMERICAN MACHINIST

SPACE 207

THE AMERICAN PULLEY CO.

SPACE 437

4200 Wissahickon Ave., Philadelphia 29, Pa.

WHAT PRODUCTS: Hand Trucks:
WHO WILL MEET YOU: J. H. Robins, president; F. E. Brown, Vice President; E. G. Monigle, Advertising Manager; E. J. McCorkle, Sales Representative.

ANTHONY CO.

SPACE 4

Streator, Ill.

WHAT PRODUCTS: Anthony Hydraulic "Lift Gate".

WHO WILL MEET YOU: Mark Anthony, Sales Representative; Frank Novotny, "Lift Gate" Sales Engineer; Edward Belows, Sales Representative.

FLOW

ARKANSAS PALLET CORP.
SPACE 530

P. O. Box 153, Pulaski Heights Sta.,
Little Rock, Ark.

WHAT PRODUCTS: Corner Lock Four-way
Pallet.



WHO WILL MEET YOU: W. R. Jordan,
President; George D. Kelley.

A CAPACITY audience is expected to hear the address of Earl Bunting, former president of the National Assn. of Manufacturers, and head of O'Sullivan Rubber Co., at the annual banquet meeting, Wednesday, January 14, at 6 P.M. in Hotel Cleveland. A special program has been arranged by the committee and reservations should be made immediately. Sale of tickets is limited to 800 by city safety regulations.

**ASSOCIATION OF LIFT TRUCKS
& PORTABLE ELEVATORS**
SPACE 109

P. O. Box 295, Stanford, Conn.

ATLANTIC DISTRIBUTORS, INC.
SPACE 741

5200 Van Dam St., Long Island City,
N. Y.

AUTOMOTIVE RUBBER CO., INC.
SPACE 514

8603 Epworth Blvd., Detroit 4, Mich.

WHAT PRODUCTS: Rubber covered acid
handling utensils.

WHO WILL MEET YOU: Tim Meulenberg,



Works Manager; Bob Redmond, Sales
Manager; Chas. Petosky, Sales Engineer;
Bill Enright, Sales Engineer; Del Wressel,
Sales Engineer.

**AUTOMATIC TRANSPORTA-
TION CO.**

SPACE 404, 405, 406

101 W. 87th St., Chicago 20, Ill.

WHAT PRODUCTS: Skylift Giant Fork and

Ram Truck, Skylift Brawny Fork Truck and
various other type Trucks.

WHO WILL MEET YOU: Elmer Twyman,
General Manager; Roy L. Wolter, Sales
Manager; Robert M. Whitney, Assistant

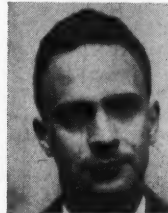


Advertising Manager; Jack Johnson, Assist-
ant to Sales Manager; J. A. Baldinger,
Assistant to the General Manager.

BAKER-RAULANG CO.
SPACE 302, 303

2168 W. 25th St., Cleveland 13, O.

WHAT PRODUCTS: FAH, JOMH, and AIMH
Center Control Fork Truck; E3 Low Lift



Truck and CXB Crane. Baker type FQH-
10/30 Center Control Fork Truck.

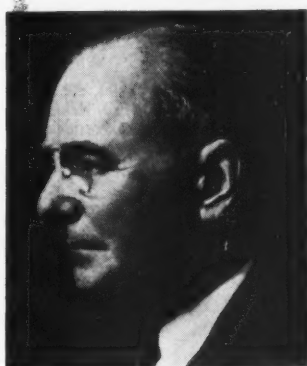
WHO WILL MEET YOU: D. L. Darnell, Vice
President in Charge of Sales; G. B. Davis,
Assistant Sales Manager; M. W. McMillan,
Advertising and Export Manager; H. B.
Greig, Field Engineer; E. E. McVeigh, Field
Engineer.

WILLIAM BAL CORP.

SPACE 535

12 Johnson St., Newark 5, N. J.

WHAT PRODUCTS: Fibre Mill Boxes and



EZRA W. CLARK

Keynote Speaker

Conference on Material Handling

Fibre Tote Boxes. Hard vulcanized fibre
Box Trucks, Mill Boxes, Tote Boxes, Special
Trunks and Carrying Cases.

WHO WILL MEET YOU: Ned Wilson, Presi-
dent; Fred Norman, Sales Manager.

BARBER-GREENE CO.
SPACE 520, 521, 522

Aurora, Ill.

WHAT PRODUCTS: Hopper-car Unloader,
Stockpiler-Loader, Bucket Loader.

WHO WILL MEET YOU: W. B. Greene,
President; H. A. Barber, Vice-President;
E. D. Stearns, Sales Manager; J. D. Turner,
Director of Publicity; M. C. Ham, Manager;
F. J. Merrill, Publicity Department.

BARRETT-CRAVENS CO.
SPACE 322, 334, 335

3257 W. 30th St., Chicago 23, Ill.

WHAT PRODUCTS: Barrett Pallet Ox, Hand
Lift-Trucks, Skids, Box-Tops Portable Ele-
vators, Hand Electric Lift-Trucks, Pallet

Material Handling Institute Elections

As we go to press, the new Board of Directors of the Material Handling Institute has been announced. By unanimous vote, the officers for 1948 will be the same as those of 1947. S. W. Gibb, Yale & Towne Mfg. Co., Philadelphia, will serve as president; H. A. Carter, president, Geneva Wheel Company, Geneva, Ohio, will serve as vice president; and R. Kennedy Hanson, Pittsburgh, as secretary-treasurer.

The 1948 Board of Directors of the Institute consists of the elected chairmen of the product sections. The Board for 1948 will be: L. C. Backart, (conveyors); R. L. Wol-

ters (electric industrial trucks); W. Van C. Brandt (electric industrial truck accessories); J. H. W. Conklin (gasoline driven trucks); L. E. Nivling, (hand lift trucks); Walter Steubing (motorized lift trucks); E. F. Seaman, (electric hoists); W. J. Reyeroft (casters); J. F. Thomas (floor trucks); L. W. Shea, (pallets and containers). The steel strapping representative will be announced after a mail ballot is taken.

A further report on the actions of the annual Material Handling Institute's meeting will be available in the February issue of FLOW.

THE SHOW

Trucks, Tractors, Die Tables, etc.
WHO WILL MEET YOU: E. J. Heimer, President; A. M. Barrett, Vice-President; H. M.



Donnelly, Assistant Sales Manager; O. M. Lund, General Manager; M. G. Marshall, Works Manager; Mr. Fremgen, Mr. Hillard and Mr. Gregory, Sales Engineers; C. E. Barnes, Vice-President.

BASSICK CO.

SPACE 118, 119

Railroad & Howard Ave., Bridgeport 2, Conn.

WHAT PRODUCTS: World's largest Caster, Pneumatic Wheels, Floating-Hub, Grooved Wheels, Position Locks, etc.

WHO WILL MEET YOU: W. G. Reycroft, Vice-President; W. F. Herold, Executive Vice-President; A. J. Israel, Special Representative; George Biggs, Sales Engineer; E. H. Liephart, Manager Detroit Office; C. B. Ford, Sales Representative; George Oakley, Sales Engineer; W. K. Meyers, Manager Chicago District.

BEALL PIPE AND TANK CORP.

SPACE 728

Portland, Oregon

WHAT PRODUCTS: "Rol-Away" Trucks and other small Specialty Trucks.

WHO WILL MEET YOU: George W. Burg.

BEARING AND TRANSMISSION CO.

SPACE 316

400 Walnut St., Findlay, O.

WHAT PRODUCTS: Power and Gravity Conveyors, Platform Skids and "Tract-R-Lift" Truck.

WHO WILL MEET YOU: Ralph W. Lashells; Theodore B. Lashells; Robert A. Snyder; William F. O'Neill; Wesley B. Stowell; Theodore A. Criblex; Robert A. Seifried;



Paul L. Weinandy; Harold F. France; Walter Kitting; Arthur E. Shryock; Bernard B. Laube; Frank Peterman; Albert Endrek.

BELL AIRCRAFT CORP.

SPACE 714

Buffalo, N. Y.

WHAT PRODUCTS: "Prime Mover" bulk carriers.

WHO WILL MEET YOU: Leston P. Faneuf, Administrative Assistant to President; Louis S. Kimball, Sales Manager, Prime Mover Division; H. Baldwin Parshall, Assistant to Sales Manager; Lester Benson and John Pehlman, Prime Mover Division.

BEN BOW MFG. CO.

SPACE 740

P. O. Box 589, Dumbarton Lane and 10th Ave., Redwood City, California

WHAT PRODUCTS: Insulated Electrification Systems, Ben Bow Multi Contact Trolleys
WHO WILL MEET YOU: Prentiss I. Kole.

BETTER PACKAGES INC.

SPACE 519

45 Waggoner St., Shelton, Conn.

WHAT PRODUCTS: Tape Machines.

WHO WILL MEET YOU: M. W. Waggoner,



General Sales Manager, New York Branch; O. K. Hill, Midwest Territory Sales Manager; Luke Laughner, Northern Ohio Manager; H. L. Putnam, Eastern Michigan Manager; R. L. Drysdale Sr.; R. C. Schoen; M. W. McCurtin; Geo. F. Lebherz; T. H. Krueger, President; G. Ryder, Advertising Manager.

BOSWORTH MFG. CO.

SPACE 714

Larchmont Ave., N. E., Warren, O.

WHAT PRODUCTS: Steel Strapping, Carbanding Strapping Tools and Accessories.

WHO WILL MEET YOU: J. C. McGunnigal, General Sales Manager; A. E. Adamson, Materials Handling Engineer; B. E. Baker,



IRVING B. HEXTER

Chairman

Conference on Material Handling

N.E. Ohio-N.W. Penna. Branch Sales Manager; J. D. Boyer, Materials Handling Engineer; J. L. Gailey, Detroit Branch Sales



Manager; F. E. Houck, Cleveland Branch Sales Manager; N. P. McCracken, Cincinnati Branch Sales Manager; R. Anderson, Cleveland District; L. L. Shafer, Sales Department.

BRUMMELER STEEL PRODUCTS CORP.

SPACE 436

1415 Ionia Ave., S. W., Grand Rapids, Mich.

THE BUDA CO.

SPACE 209

154th & Commercial, Harvey, Ill.

WHAT PRODUCTS: Chore Boy Fork Lift Truck, Chore Boy Model FH, New Platform Type Truck, Chore Boy Models B and TR Tractor, Buda Hydraulic Jacks.

WHO WILL MEET YOU: R. K. Mangan, Executive Vice-President; R. B. Fisher, Vice-President; W. T. Mulcahy, Sales Manager; Dave Price, Service Manager; H. H. Cohenour, Advertising Manager; J. W. Biety, Assistant Advertising Manager; Dwight Richards, Executive Engineer; and Sales Representatives: R. J. Mulrone, Charles Applegate, J. M. Padgett, W. A. Hart.

BUREAU OF ORDANCE, NAVY DEPARTMENT

SPACE 744

E. W. BUSCHMAN CO.

SPACE 403

Winton Place, Cincinnati 32, O.

WHAT PRODUCTS: Buschman Universal Cable Type Trolley Conveyor, Buschman "Beltelevator" Floor to Floor Conveyor, Roll-Or-Wheel Portable Conveyor.

WHO WILL MEET YOU: E. W. Buschman, President; R. B. Vogt, Vice President; V. W. Sicking, Secretary; W. E. Todd, Sales Manager.

C & D BATTERIES, INC.

SPACE 7

Conshohocken, Pa.

WHAT PRODUCTS: Diesel and Telephone Batteries, "C&D Aircool" Fourfold, Batteries for Electric Industrial Trucks and Motorized Electric Lift Trucks.

WHO WILL MEET YOU: Felix W. Altrup, Washington Manager; Robert M. Pease, New York Manager; Chas. F. Gross, Philadelphia Division Manager; A. L. Crothers, Central Division Manager; John F. Rittenhouse, Engineer, Headquarter's, Conshohocken; Phil Harvey, Sales Manager, Headquarter's, Conshohocken.

Philadelphia Division Manager; A. L. Crothers, Central Division Manager; John F. Rittenhouse, Engineer, Headquarter's, Conshohocken; Phil Harvey, Sales Manager, Headquarter's, Conshohocken.

You asked for it - HERE IT IS!

NEW- BAKER 1000 lb. ELECTRIC FORK TRUCK

only \$2791 —

INCLUDING BATTERY
AND CHARGER



● Narrow aisles, limited floor-loading capacity, congested areas, small and low-capacity elevators no longer need deprive plants of the advantages of mechanized handling with electric fork trucks. Designed to meet these specific problems, this new truck finds application wherever loads may be limited to 1000 lbs. Its low price makes it possible to use fork trucks and pallets on many applications for which the cost of equipment, in the past, was not justified.

Baker Type FQH Center-Control Fork Truck
Capacity: Standard rating 1000 lbs. for 30 inch load length.

Weight: Truck complete with Battery 2805 lbs. Weight with full load (3805 lbs.) permits use on floors having limited capacity, on low-capacity elevators, and for loading highway trucks.

Dimensions: Overall length, excluding forks, 53½ inches. Width 28 inches. Turning radius—outside—60 inches. Requires only 97½ inches with 30 inch load to make right angle turn. Tilting-telescoping fork lift of 108 inches with 83 inch overall nested height.

Power Equipment: Battery suitable for full 12-hour operation.

Charging Equipment: Single-circuit motor-generator charger with automatic charge control and shut-off.

Price: Complete with battery and charger \$2791, with battery only \$2441.

See this new truck perform at our booths 302-303 National Materials Handling Exposition.

For complete information get in touch with your nearest Baker representative or write us direct.

BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Company

2185 West 25th Street • Cleveland, Ohio

In Canada: Railway & Power Engineering Corporation, Limited

Your trucks will carry **MORE PAY LOAD**

when batteries are kept properly charged

with

FEDERAL'S NEW INDUSTRIAL TRUCK BATTERY CHARGER



• DUAL-PURPOSE CHARGING

One unit charges either lead or Edison cells—with 2-rate charge for lead type and single-rate controlled duration charge for Edison type batteries.

• AUTOMATIC OPERATION

Timing and charging rates are automatically controlled for the entire 8-hour charging period.

• AUTOMATIC RECYCLING CONTROL

Federal's Automatic Recycling Control, for charging two batteries consecutively in 16 hours, is available for all standard chargers.

• SIMPLIFIED CONTROLS

Charger can be operated by truck drivers or other unskilled help. The operator makes the setting—the charger does the "thinking"

PROPER battery charging can cut your material handling costs two ways—by increasing load handling capacity and minimizing battery replacement. Batteries deliver *more power* and *last longer* when charged to the proper level—at the proper rate.

Federal's new Selenium Rectifier Industrial Truck Battery Charger is especially designed to provide positive automatic control of both charging time and charging rate. Lead cells are fully charged in 8 hours, starting at a high rate which automatically switches to low rate after reaching 85% charge. Edison type batteries are charged at a single high rate of automatically-controlled duration.

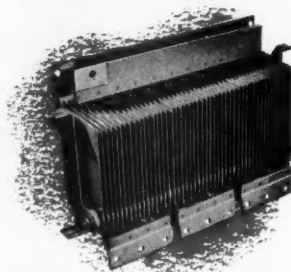
The addition of Federal's Automatic Recycling Control permits two batteries to be charged consecutively with a single setting of the controls.

Federal chargers are available in standard sizes to cover practically all industrial truck charging requirements—lead batteries of 150 AH to 1000 AH capacity and Edison batteries of 150 AH to 850 AH capacity. Write Federal today for complete information. Dept. E267.

SEE FEDERAL'S EXHIBIT in Booth 211, at the Second National Materials Handling Exposition, Public Auditorium, Cleveland—January 12-16

POWERED BY FEDERAL'S LONG LIFE SELENIUM RECTIFIER

Federal Selenium Rectifiers are instant starting, quiet in operation, last almost indefinitely without attention—and their inherent high efficiency keeps power bills to the minimum.



Federal Telephone and Radio Corporation

SELENIUM and INTELIN DIVISION, 1000 Passaic Ave., East Newark, New Jersey

In Canada:—Federal Electric Manufacturing Company, Ltd., Montreal, P. Q.
Export Distributors:—International Standard Electric Corp. 67 Broad St., N. Y.



KEEPING FEDERAL YEARS AHEAD... is IT&T's world-wide research and engineering organization, of which the Federal Telecommunication Laboratories, Nulley, N. J., is a unit.

THE SHOW

CASTER AND FLOOR TRUCK MFRS' ASS'N

SPACE 101, 102

Room 1402-D, 7 W. Madison Street, Chicago 2, Illinois

WHO WILL MEET YOU: Miss Jesse Morrison.

RESERVATIONS for the annual banquet meeting, Wednesday, January 14 at 6 P.M., in Hotel Cleveland should be made immediately. Earl Bunting, president of National Assn. of Manufacturers, and the O'Sullivan Rubber Co., will address the meeting.

CHISHOLM-MOORE HOIST CORP.

SPACE 526

Fremont Ave., Tonawanda, N. Y.

WHAT PRODUCTS: Various types of Hoists.



WHO WILL MEET YOU: D. S. Brisbin, E. J. Byrne, E. N. Turner and C. F. Hill.

CITY MACHINE CO.

SPACE 704

1095 Home Ave., Arkon 10, O.

WHAT PRODUCTS: Industrial Wheels.

WHO WILL MEET YOU: J. L. Brown, Owner; T. R. Landaker, Sales.

CLARK TRUSTRACOR DIV., CLARK EQUIPMENT CO.

SPACE 407, 408, 409, 419, 420 421

W. Champion St., Battle Creek, Michigan

WHAT PRODUCTS: Industrial Trucks and Accessories.

WHO WILL MEET YOU: George Spatta, president; W. E. Schirmer, L. A. Bixby, C. H. King, J. G. Mack and E. M. Schultheis, vice presidents; G. E. Arnold, secretary; L. L. Lyons, treasurer; J. H. W. Conklin, sales manager, Battle Creek; Everett M. Sharp, Birmingham; Robert W. Reeser, Boston; Maxwell A. Goodwin, Chicago; C. E. Staninger, Detroit; Harry B. Clapp, C. W. Meldram and James Tinlin, all of New York; B. W. Yocum, Philadelphia; C. I. Ucker, Pittsburgh; Harry E. Hanley, St. Louis; C. H. Warner, Washington, D. C.; Martin E. Graham, William C. Polk, Graeme Darling, Cleveland; Russell F. Oakes, manager of advertising and public relations.

THE CLEVELAND WIRE SPRING CO.

SPACE 505

Central United Bldg., Cleveland 13, O.

WHAT PRODUCTS: Steel Tote Boxes and Barrels.

WHO WILL MEET YOU: E. G. Waite, General Manager; R. J. Poole, Sales Manager; F. G. Doerr, Salesman.

COFFING HOIST CO.

SPACE 204

Danville, Ill.

WHAT PRODUCTS: Hoist-Jack and Mighty Midget Puller; Safety-Pull Ratchet Lever Hoist, "Quick-Lift" Electric Hoist.

WHO WILL MEET YOU: J. R. Coffing, General Sales Manager; Mike Crowder, District Sales Manager.

THE COLSON CORP.

SPACE 411

341 Cedar St., Elyria, O.

COMET MANUFACTURING CO.

SPACE 727

9253 Nicollet Ave., Minneapolis 9, Minn.



WHAT PRODUCTS: Motorized Hand Trucks.

WHO WILL MEET YOU: H. D. Cook, President; T. O. Murphy, Vice-President.

CONCO ENGINEERING WORKS

SPACE 503

Mendota, Ill.

WHAT PRODUCTS: Illustrations of Cranes at work; Torpedo Electric Hoists, Differential and Spur Gear Hoists, I-Beam Trolleys on Display.

WHO WILL MEET YOU: R. W. Conkey, Executive Vice President; W. G. Van Etten, Operating Vice President; Vern R. Billings, Advertising and Sales Promotion Manager; G. H. Smith, Agency Supervisor; B. L. Hulse, Chief Engineer; C. R. Sabin and L. E. Ritzman, Factory Representatives in Cleveland.

CONOVER-MAST CORP.

SPACE 310

CONVEYOR REPAIR SERVICE,

SPACE 511

13910 Aspinwall Ave., Cleveland, O.



LLOYD S. BACKART

General Committee
Second National Material Handling
Exposition

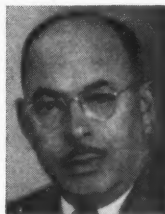
CRESCENT TRUCK CO.

SPACE 301

1155 Willow St., Lebanon, Pa.

WHAT PRODUCTS: LHVH-2000# Aisle-Saver Fork Truck, MGVH-4000# Palletier Fork Truck with Pneumatic Tires, LGVH-1000# Palletier Fork Truck.

WHO WILL MEET YOU: C. D. Eiler, Presi-



dent & General Manager; J. G. Krause, Secretary and Assistant General Manager; R. E. Clark, Vice President-Sales; H. D. Keefer, Service Engineer; J. G. Ehrhorn, Salesman.

DISTRIBUTION AGE

SPACE 516

DIVINE BROTHERS CO.

SPACE 11

200 Seward Avenue, Utica 1, New York

WHAT PRODUCTS: "SteelWate" line of Pressed Steel Snivel and Rigid Industrial Truck Casters, with Thread Guards. Divine



Industrial Truck Casters and Floor Protective Wheels.

WHO WILL MEET YOU: Charles M. Mead, Vice President and Sales Manager; James D. Blair, Chief Engineer; George Reedy, Sales Engineer; William C. Beddoe, Advertising and Sales Promotion Manager.

DEMPSTER BROTHERS INC.

SPACE 305

Springdale Ave. & Sou R. R. Knoxville, Tenn.

DRAKE, STARTZMAN, SHEAHAN, BARCLAY, INC.

SPACE 512

50 Church St., New York 7, N. Y.

WHO WILL MEET YOU: Albert B. Drake,



President; Paul H. Startzman, Operating Vice-President; John D. Sheahan, Secretary and Treasurer.

THE SHOW

ECONOMY ENGINEERING CO. SPACE 121

2677 W. Van Buren St., Chicago 12,
WHAT PRODUCTS: Box Types, Hi-Reach
Telescopes, Shoplifter.

WHO WILL MEET YOU: E. W. McDonnell,
President; W. J. Pavey, Vice-President;
Carl M. Rhodes, Distributor Sale; Harold
Benzinger, Area Supervisor.

THOS. A. EDISON, INC., ED- ISON STORAGE BATTERY DI- VISION

SPACE 434

51 Lakeside Ave., West Orange, N. J.
WHAT PRODUCTS: Various types of
Storage Batteries for Industrial Trucks;



Lighting Outfits, and accessories.

WHO WILL MEET YOU: W. W. Could, Dis-
trict Manager; J. Heinal, Jr.; C. W. Pilling;
J. B. Lansdell; E. W. Ahlstrom and G. T.
Bradley.

ELECTRIC INDUSTRIAL TRUCK ASS'N.

SPACE 5



Frick Bldg., Pitts-
burgh 19, Pa.

WHAT PRODUCTS:
Battery Powered
Electric Truck Ma-
terial.

WHO WILL MEET
YOU: C. F. Kells,
Managing Director.

ELECTRIC PRODUCTS CO. SPACE 501

1725 Clarkstone Ave., Cleveland 12,
O.

WHAT PRODUCTS: Generator Battery
Chargers and Sectionalized Control Panel.

WHO WILL MEET YOU: G. S. Berry, Vice-



President; R. H. Ehret, Assistant Sales
Manager; G. J. Doss, District Manager;
R. R. Kovach, District Manager; E. G.
Schroeder, District Manager; Robt. G. Red-
head, Advertising Counsel.



GORDON J. BERRY
Vice Chairman
Material Handling Theater

ELECTRIC STORAGE BATTERY CO.

SPACE 115

Allegheny Ave. & 19th St., Philadelphia
32, Pa.

WHAT PRODUCTS: Cutaway Cells of Exide
Ironclad Batteries for Electric Trucks.

WHO WILL MEET YOU: W. Van C. Brandt,
Manager Motive Power Sales, Philadelphia;
W. P. Roche, Manager Cleveland Branch;
W. M. Ely, Cleveland; G. V. Cripps,
Cleveland; H. V. Allen, Cincinnati Branch;
H. R. Miller and P. H. Martin, Detroit;
C. J. Moore, Manager Pittsburgh Branch;
C. H. Leet, Pittsburgh; W. Mussen, Chicago.

ELIZABETH IRON WORKS SPACE 123

P. O. Box 360, Elizabeth B, N. J.

WHAT PRODUCTS: "Master" Medium Hand
Ramps, "Multi-Stak" Pallet Stacker. One
Man Bridge Ramp, "Diamond" Torque
Hook.

WHO WILL MEET YOU: Harry Diamond;
I. L. Chanenson; Leonard Kates.

ELWELL-PARKER ELECTRIC CO. SPACE 426, 430

4205 St. Clair Ave., Cleveland 14, O.

WHAT PRODUCTS: New type Crane, New



type Pusher, and Dump Scoop.

WHO WILL MEET YOU: J. W. Coulton,
Assistant Sales Manager; G. H. Brown,
Assistant Export Manager; W. A. Meddick,
Vice-President and Sales Manager; C. B.
Cook, Vice-President, Export and Sales
Promotion Manager; J. A. Draxler, Service
Manager; and other branch personnel.

EQUIPMENT MANUFACTURING, INC.

SPACE 13

21550 Hoover Rd., Detroit 5, Mich.
WHAT PRODUCTS: Portable Stock Racks
and Boxes made from square steel tubing.
WHO WILL MEET YOU: R. K. Degener,
Sales Manager; M. D. Harwell, Assistant
Sales Manager; F. B. Hillger, Sales Engi-
neer; A. Nagy, Product Engineer.

FAB-WELD CORP.

SPACE 329

3700 Richmond St., Philadelphia 34, Pa.
WHAT PRODUCTS: Wire Pallet, Steel Skid
Bin, Hopper Type Skid Bin.
WHO WILL MEET YOU: F. W. Bruckerl,



President; G. J. Hanhauser, Secretary and
General Manager; R. H. Moor, Jr., Chief
Engineer; C. J. Pfaff, Sales.

FACTORY MANAGEMENT & MAINTENANCE

SPACE 207

THE FAIRBANKS CO.

SPACE 201

393 Lafayette St., New York 3, N. Y.
WHAT PRODUCTS: Steel-Framed Hand &
Platform Trucks, Specially Built Trucks,
Dollies, Casters, Rubber Tired Wheels,
Bronze and Iron Body Valves, Dart Unions.
WHO WILL MEET YOU: A. L. Naylor,
Executive Vice President; R. G. Macbeth,
Sales Promotion Manager; L. H. Hancock,
Engineer; H. L. Jones, Engineer; E. T.
Flanagan, Manager, New York; A. W. Hoogs,
W. T. Rogers, J. C. Valentine, R. W. Nick-
erson, R. A. Fournier, E. J. McVey, N. F.
Unmuth, New York Branch; A. T. Wendler,
Manager Pittsburgh Branch; W. H. Peate,
E. W. Stephenson, H. J. Leindecker, J. R.
Donoghue, S. H. Ingraham, W. B. Crane,
Pittsburgh Branch; J. E. Bates, J. Chandler,
J. Crowley, S. G. Redfield, Boston Branch;
C. L. Haslup, Sales Manager of Regional
Sales Division; C. G. Long, H. J. Knapp,
L. Compton, H. E. Tenney, H. M. Sims,
K. W. McLean, J. J. Langan, Regional Sales
Division.

FAULTLESS CASTER CORPORA- TION

SPACE 208

1521 N. Garvin St., Evansville 7, Ind.
WHAT PRODUCTS: Casters.
WHO WILL MEET YOU: William H. Noel-
ting, President; Clarence B. Noelting,
Executive Vice-President; Fred H. Doerr;
Edward F. Koch; Emmett L. Isham.

FEDERAL TELEPHONE AND RA- DIO CORP.

SPACE 211

100 Kindsland Rd., Nutley, N. J.
WHAT PRODUCTS: Selenium Rectifier, In-
dustrial Truck, Battery Chargers and Fed-
eral Selenium Rectifier Stacks.
WHO WILL MEET YOU: H. W. Mason,
Sales Manager, Selenium and Intelein Di-
vision; E. H. Pollacek and G. J. Collins,
Assistant Sales Managers; A. J. Rierson,
Sales Engineer.

Conference on Material Handling

2nd Material Handling Exposition—Public Music Hall

MONDAY, JANUARY 12

Opening Session—2 P.M.
Chairman and keynote speaker

EZRA W. CLARK, Consultant, Battle Creek, Mich.

"Public Warehouse Handling"

J. Leo Cooke, Lehigh Warehouse & Transportation Co., Newark, N. J.

"The Utilities' Handling Problems"

R. A. Clark, Detroit Edison Corp., Detroit, Mich.

"Determining Pallet Sizes"

W. B. Dalton, Kraft Foods, Chicago, Ill.

TUESDAY, JANUARY 13

Morning Session—10:30 A.M.

W. F. BRAITHWAITE, U. S. Bureau of Standards, Division of Simplified Practices, Washington, D. C., chairman

"Factors and Their Evaluation for Determining Economies of Material Handling Systems"

Prof. A. B. Cummins, Western Reserve University, Cleveland.

"Standardization of Materials Handling Equipment"

D. H. Burton, Bakelite Corp., Boundbrook, N. J.

"The Railroad's Handling Problem"

C. R. Opshal, Northern Pacific Railroad, St. Paul, Minn.

Afternoon Session—2 P.M.

M. W. POTTS, Distribution Age, New York City
Chairman

"Integrating the Use of Different Types of Handling Equipment"

R. L. Franing, International Harvester Co., East Moline, Ill.

"Freight Elevator Applications"

William W. Bryant, Westinghouse Electric Co., Jersey City, N. J.

"Planning a Storeroom Operation"

A. C. Farley, The Davison Chemical Corp., Baltimore, Md.

WEDNESDAY, JANUARY 14

Morning Session—10:30 A.M.

NORMAN CAHNERS, Publisher Modern Materials Handling
Chairman

"Planning the Pallet System"

Jack Roberts, AnSCO Corp., Binghamton, N. Y.

"Handling Unusual Shapes"

Robert C. Brady, Ingersoll Steel Division, Borg-Warner Corp., Chicago, Ill.

"Planned Packaging for Efficient Handling"

J. G. Witte, Montgomery Ward & Co., Chicago, Ill.

Afternoon Session—2 P.M.

Program of the American Society of Mechanical Engineers
C. H. BARKER, JR., Chairman

THURSDAY, JANUARY 15

Morning Session—10 A.M.

H. E. BLANK, Modern Industry, New York City
Chairman

"Loss and Damage Prevention Through Improved Material Handling"

John L. Webb, Pennsylvania Railroad, Philadelphia.

"Coordinating Traffic and Materials Handling"

W. Bert Watson, H. J. Heinz of Canada, Leamington, Ont.

"The Plant Material Handling Engineer—His Value, Duties and Authorities"

O. E. Johnson, Kaiser-Frazer Corp., Willow Run, Mich.

Afternoon Session—2 P.M.

HARRY CARPENTER, Technical Editor, FLOW Magazine
Chairman

"Procedure for Making a Material Handling Survey"

A. E. Aukens, Consulting Engineer, Cleveland.

"Material Handling Factors in Plant Layout"

W. R. Postlewaite, Standard Oil Co. of Calif., San Francisco.

"Time and Motion Techniques in Material Handling"

W. J. Biehl, W. F. Fry & Associates, Chicago, Ill.

HARRY J. FERGUSON CO. SPACE 6

115 West Ave., Jenkintown, Pa.

WHAT PRODUCTS: Small Floor to Floor Belt Conveyor, "Streamliner Jr." Portable Belt Booster, Gravity Wheel Conveyor and Gravity Roller Conveyor.

WHO WILL MEET YOU: Harry J. Ferguson,



Sr. President; Harry J. Ferguson, Vice-President; J. Richard Butler, Sales Manager; William H. Roth, Sales Engineer.

FLOW

SPACE 722, 723

1240 Ontario St., Cleveland 13, Ohio

WHAT PRODUCTS: The Magazine Which Integrates Material Handling Into The Flow of Production. Flow Directory.

WHO WILL MEET YOU: Irving B. Hexter, President and Publisher; Lester P. Aurbach,

Vice President; Manfred Schueler, Editor; Charles N. Demian, Associate Editor; Harry W. Carpenter, Technical Editor; Harold F. Behm, Ken Brown, Norman Lott and Lester Oppenheim, Space Sales.

GENERAL BOX CO.

SPACE 8, 9

504 N. Dearborn St., Chicago 10, Ill.

WHAT PRODUCTS: Wood Pallets, Wire-bound Boxes & Crates, Corrugated and Cleated Corrugated Containers.

WHO WILL MEET YOU: J. F. Ferguson, Vice President & Sales Manager; Ralph Cunningham, Vice President and Plant Manager; Frank Dicke, Sales Manager; M. J. Watkins, Advertising Manager; W. G. Vance, Salesman.

GENERAL ELECTRIC CO.

SPACE 337

1285 Boston Ave., Bridgeport 2, Conn.

WHAT PRODUCTS: Time Control for Battery Charger, Copper-Oxide Rectifiers for Battery Charging.

WHO WILL MEET YOU: I. A. Lee,



Sales Mgr.; R. V. Dawney, Field Representative, North Central District; F. C. Oberndore, Atlantic District; G. C. Ruckel, Atlantic District; P. E. Wood, Northeastern District; D. M. Daley, Great Lakes District.

GENEVA METAL WHEEL CO. SPACE 205

Geneva, Ohio.

WHAT PRODUCTS: Rubber Tired Disc



Wheels, Spoke Type Steel Wheels, Steel Tired Disc Wheels, Cast Rim Steel Spoke Wheels, Semi-Steel Cast Wheels.

WHO WILL MEET YOU: H. A. Carter, President and Treasurer; R. E. Sawyer, Assistant Sales Manager; H. Albert Ford, Sales Engineer; R. B. Winchester, Sales Engineer.

(Turn to page 104)

CIRCULAR

material

IT COVERS A WIDE RANGE OF
MATERIAL HANDLING DEVICES



By **BRUCE A. HAINSWORTH**,
Engineering Consultant
H. K. Ferguson Co., Cleveland

YOU HAVE read and heard a good many references to the Era of Material Handling. Our much-vaunted American industry, paced by high-capacity production machines, found itself picking up, moving and setting down one piece or one shovelful of material at a time—and straining its muscles in doing so. The high-gear tempo of war production sharply emphasized that mass production called for equally advanced mass handling techniques by use of mechanical muscles. This trend had been steadily accelerated since the war. The increasing application of this principle to shops, mills, yards, factories, quarries, mines and warehouses has caused the postwar years to be named the Era of Material Handling.

The circular warehouse is a specific recognition of modern material handling principles; the circular structure was shaped by the material flow which in turn was engineered to provide the most economical methods in a particular type of warehousing operation.

Past issues of **FLOW** have featured a wide variety of successful warehousing operations; here, for the first time, we present one which exists at present in a design on paper and a report—the circular warehouse. It has been widely publicized and discussed, and misconceptions about its purpose and function have inevitably resulted. **FLOW** believes that its functional design—conceived purely as a material handling machine—may foreshadow a new development in industrial warehouse design. Here its originator, Bruce A. Hainsworth, brings you up to date on the subject, tells you what the circular warehouse was intended to do and what not to do.—The Editors.

This is the simple, basic fact that should be borne in mind throughout this discussion.

Designed to Solve a Problem

Since a little more than a year ago trade magazines and newspapers began publicizing the circular warehouse, and it was to be expected that some misunderstandings would result. While the H. K. Ferguson Co. presented the design as the "ideal" structure for a *specific* operation submitted by a client, some drew the erroneous conclusion that it was offered as an "ideal" for any kind of warehousing operation, regardless of the size of volume or type of product.

Warehousing is far too complex to permit of such a cure-all. However, after the design was developed, further study revealed that it could be applied to certain other high-volume operations. Thus it is suitable for some purposes and not for others. Both aspects will be considered here.

To find out what the design was intended to do and what not to do, let us review briefly the steps that led to its development. A large mail order company had the not unfamiliar problem of high material handling costs in a conventional multi-story building. The specific

group of commodities involved mainly large, bulky items of irregular shape which can be roughly classed as durable consumer goods. The inadequate shipping dock caused costly truck waiting time. Within the warehouse, there was congestion and rehandling which brought about errors in order filling. This meant disappointed customers and customer ill-will. Final result: an ascending operational cost curve with a decreasing volume curve. The management saw the solution in a modern handling operation with the lowest possible per-ton cost.

The client set many requirements. The initial daily volume would be 68,000 cu. ft. of such commodities as domestic refrigerators, heaters, furniture, rolls of floor covering, plumbing fixtures, home building supplies and many others. Goods were to be received in large quantities by rail car and shipped as single-item or multi-unit orders by highway trucks to rail distribution centers, branch stores and retail customers. The breaking down of large bulk shipments into single units, it should be noted, was one of the key requirements. Following are some of the additional requirements: inspection areas for arriving merchandise; storage provisions for regular and light mer-

WAREHOUSE...

handling machine

IN TWO SECTIONS

This first one covers broad considerations of the subject, the one beginning on the next page describes the technicalities of flow and handling methods. Either section may be read ahead of the other, depending on your interest.

chandise; facilities for order selection, order assembly and shipping. The layout also had to allow for light manufacturing and/or assembly operations, including shops for repair of damaged merchandise and cutting floors for heavy floor coverings. Other details pertained to procedures and methods, including simplified controls and office routines. This abbreviated list gives you an idea of the complexity of the operation.

The circular design was the end product of an exhaustive study of

practically all possible types of layouts. The circle—with goods flowing radially from the periphery to a common center—appeared as the simplest solution. A mountain of calculations and graphs convinced us that, with all flow lines held direct and to the shortest distance, the circular warehouse was ideal for this type of operation. It is in this specific sense that the term was originally employed. Any elaborations are therefore bound to miss the point of the original purposes and the problems presented. The structural and flow aspects of the design are discussed in the section starting on the next page.

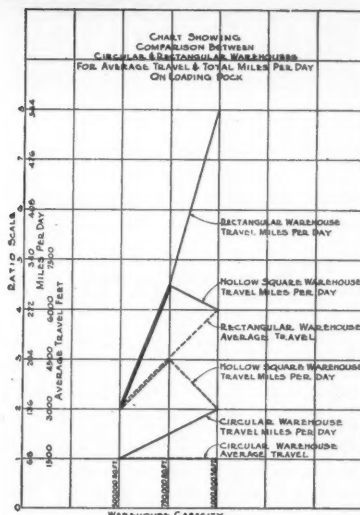
Different Product—Different Solution

Let us consider another mistaken idea, which is typical of certain inquiries we receive on the subject. This one overlooks that the cir-

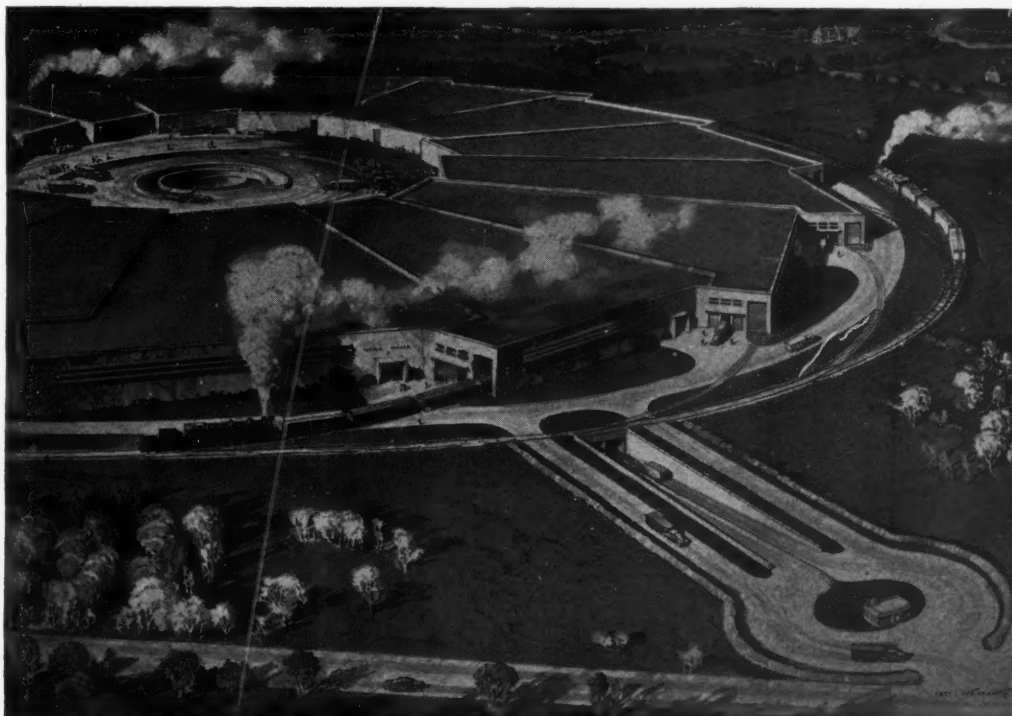
cular warehouse was designed to handle a special group of commodities.

A meat packer wrote in saying that he had seen the statement that the circular warehouse would save up to 400 miles of in-plant tractor-train travel per day. Would this saving be the same in the meat packer's operation?

No. Here's why. Mainly because the circular design was evolved for bulky items of irregular shape—anything from bundles of tubing



ARTIST'S CONCEPTION of circular warehouse. Center is without roof to show detail of this area.



PATTERN FOR THE FUTURE?

to upholstered furniture—which would be received in carlot quantities and broken down into single-items per order. The packer, on the other hand, would have compara-

tively small shipping containers of uniform rectangular shape.

The comparative graph on these pages illustrates the point. The graph was made on the basis of a comparison between the full circular warehouse of 1,000,000 sq. ft. (it

can operate just as well with a half circle, or less) and a long rectangular one-story warehouse of the same size, both handling a highly diversified line of durable consumer goods.

The line labeled "Circular Ware-
(Turn to page 120)

The circular layout, and how it works

CONSIDERABLE publicity has previously been given to the evolution of the circular design, a matter of purely academic interest. Here we need only mention that it was evolved through a good many preliminary designs, starting with the conventional rectangle and

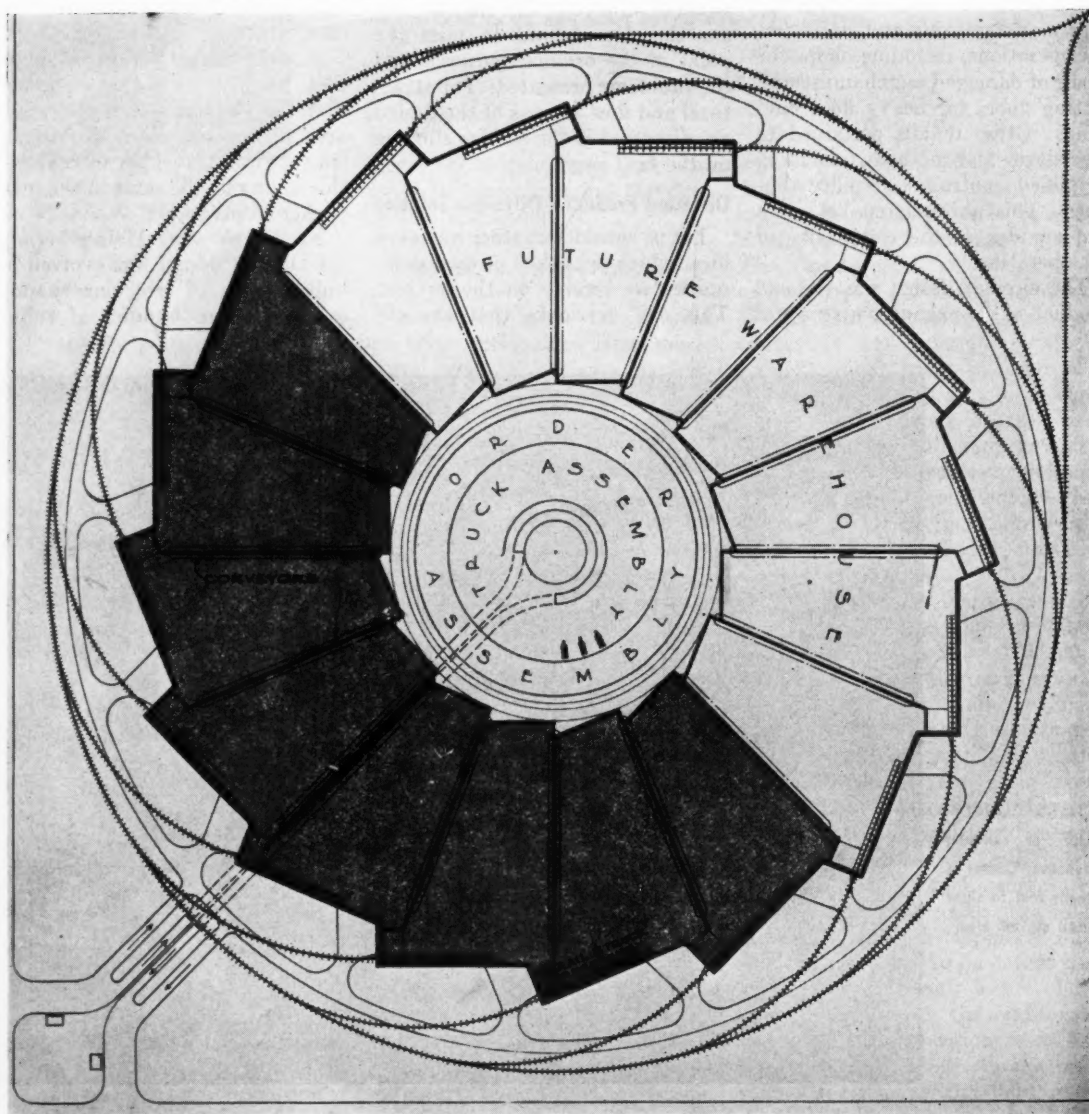
working through the triangular warehouse, the hollow square and finally arriving at the full circular layout. Since the emphasis of this article is on the flow of functional aspects, the schematic sketches in this section are given to illustrate how the flow finally determined the

circular structure.

The one-story circular building is divided into 16 segments, as shown. The design provides a circular siding around the building, with a rail spur into each of the 16 segments or bays.

Thus the minimum outside di-

FULL CIRCULAR warehouse. Area of shaded portion is 500,000 square feet. See details in article.



ameter of the building is set by the minimum radius allowed on the circular switching track. The diameter of the circular loading dock in the center of the circle cannot be reduced below 330 feet. The warehouse which fits between these two minimum limits has a useful area of approximately 1,000,000 sq. ft., not including receiving and shipping areas. The size of the shipping area in the center is determined by the size of the trailer-trucks (with an approximate 45-foot over-all length). The minimum distance from the ramp to the dock is 85 feet, providing sufficient room for modern trailers to extend into the driveway and leaving adequate roadway for traffic and maneuvering.

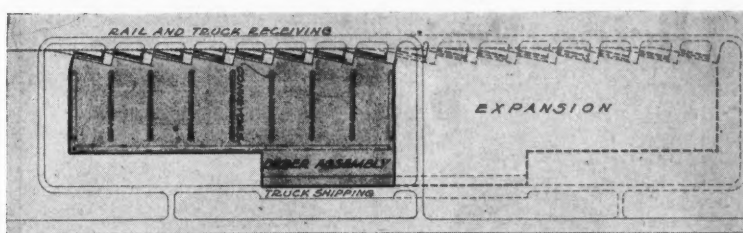
In the interest of a compact layout and economical operation, it is felt that the circular warehouse should not exceed 1,500,000 sq. ft. However, it is not necessary to construct the full circle of 16 bays for effective operation. Any number of segments may be constructed as desired, allowing for future expansion. Thus an eight-segment layout, one half of the full circle, would have 500,000 sq. ft.

Of structural steel frame construction, the building would have columns spaced at 40'x60' centers, with masonry exterior walls and with interior fire walls dividing each bay, each having 62,500 sq. ft. A flat roof was visualized over the whole building without skylights or roof ventilators, with fresh air drawn in through exterior walls and exhausted through the roof. Or the flat roof might be limited to the warehouse proper, giving the central assembly-loading area a roof pierced with numerous skylights or large glass areas which would afford protection for loading operations, eliminating the problem of "open doors" in snowy or rainy weather.

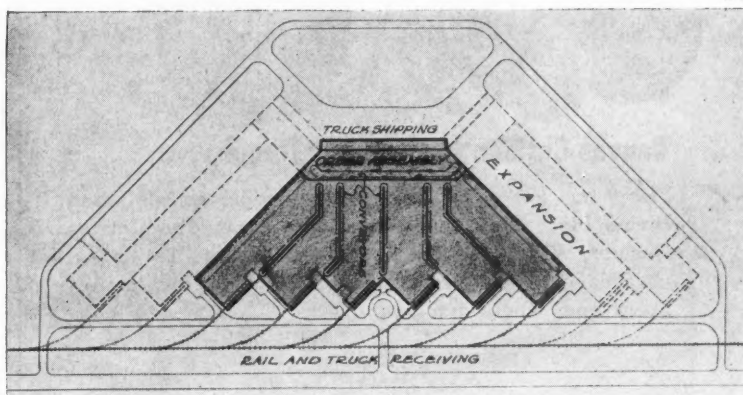
As the layout shows, each bay would have its own track with a capacity for three rail cars, and a dock for three highway trucks. Originally, the client could not control the exact receiving method, and hence provisions were made for receiving the full volume either by car or truck.

The receipt of shipments by both means would provide flexibility, to take care of peak deliveries when otherwise one system would be

FOUR STEPS IN EVOLUTION OF CIRCULAR WAREHOUSE



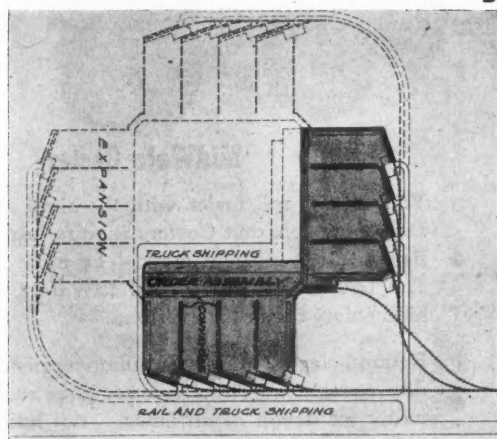
A



B

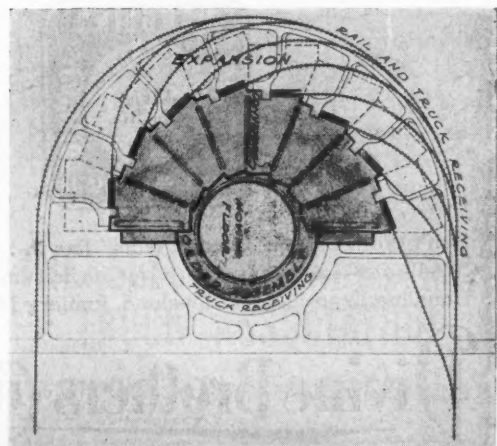
A
Typical one-story rectangular warehouse. The shaded portion is 500,000 square feet.

B
Triangular warehouse was another step in search for solution. Shaded area—500,000 sq. ft.



C

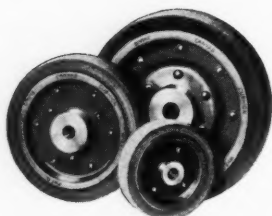
C
One-story hollow square warehouse—shaded portion 500,000 square feet.



D

D
One-story semi-circular warehouse—area of shaded portion is also 500,000 square feet.

Divine Protection Pays Dividends!



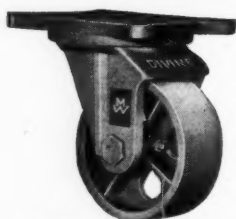
Canvas Cushion



Formica

Floors last longer . . . avoid costly replacements when Divine Floor Protective Wheels are used. The Canvas

- Cushion Wheel and the Formica Wheel are Divine exclusives — are easy rolling, noise reducing, and protect floors from wheel damage.



MidWate Caster

Your trucks roll faster with the right wheel and caster. Divine Wheels and Casters require less effort to move —

- Result: more efficient work — by more satisfied workers. The LoWate, MidWate and HiWate Casters all have a high safety factor for overload.

Rugged construction and sound engineering assure everyday operation without failure. Your rolling equipment is ready for action at all times — not laid up for repair — **BUT IN SERVICE!**



Don't Wait! Use the Divine "Wate" line . . . and see the new SteelWate — shown (we hope) for the first time at the Materials Handling Exposition in Cleveland, January 12-16, 1948.

Divine Brothers Company

INCORPORATED
UTICA 1, N. Y.

overloaded.

As mentioned in the opening paragraphs, this design was created primarily for truck shipments. However, shipment by rail cars can be made when required using the equipment already discussed, in the following manner. Orders for rail shipment would be filled and routed to a designated location on the order assembly floor. From time to time, the four-wheel trucks at this location would be connected to the adjacent overhead chain conveyor which would discharge them at the railroad receiving dock for convenient rail shipment. The whole conveyor system is built on the principle of the circle. It is therefore only necessary to change the designation of points of loading and receiving, but it is not necessary to change equipment in order to accomplish a reversal of flow.

Typical Flow Pattern

Let us see this layout in action by visualizing a typical flow of commodities. The principle handling devices have already been indicated—that is, tractor-trains in conjunction with the pallet-fork-truck method. The drag chain system indicated in the diagram is also an important part of the facilities.

The merchandise that has arrived either by car or truck is palletized at the receiving point, then placed on four-wheel trailers. Eight to 10 trailers are coupled into a train for movement by tractor (after inspection) to the storage location.

Travel distance is held down by the fact that incoming cars or trucks are spotted in the bay where the merchandise is stored. Since all segments are connected by doorways, the tractor-trains could of course move into any adjacent bay.

The "bulk" order assembly method, originally proposed by the mail order company, provides that all orders for a specific commodity (refrigerators for example) be handled in a group. Thus the required number of refrigerators for a particular day is detiered from the stacks and loaded on the trailers. After checking, the completed train would be hauled across the bay—to the drag chain on the "nearer side." Here the individual trailers would be uncoupled and hooked on to the over-

(Turn to page 76)

We've been told:

"You make Electric Trucks Too good!"



Some people say, when they first see the rugged chassis and construction details of electric industrial trucks: "But you make them *too* strong! Why not build them lighter and cut the price?"

Significantly, that suggestion rarely comes from users who have tried less sturdy equipment and *who know its over-all operating costs.*

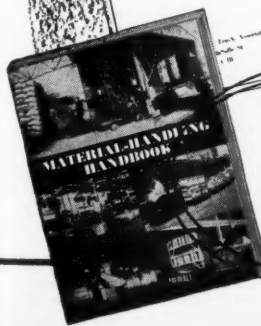
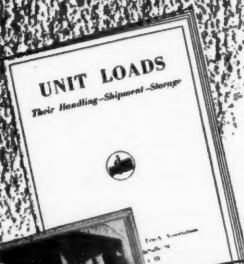
These experienced owners know the fallacy of cheaper equipment. They have told of price-tag "savings" quickly eaten up by inflated maintenance costs—or by losses arising from delayed operations. They have struggled against re-

peated interruptions in material flow caused by sending "a boy to do a man's job."

That, in short, is why the electric truck industry continues to build battery-powered trucks "*too good.*"

We feel that this policy has much to do with the fact that over 90 percent of the electric industrial trucks sold in the past twenty years to over 300 branches of industry and distribution are still in constant service.

Such would not be the case, we are sure, if high quality construction did not result in the *lowest over-all cost per ton of material handled.*



How *you* may assure economy, measured by that standard, is fully explained in two practical manuals: the MATERIAL-HANDLING HANDBOOK and UNIT LOADS. Your letter will bring them without charge.

THE ELECTRIC INDUSTRIAL TRUCK ASSOCIATION

29-281 Forty-first Avenue, Queens Plaza, Long Island City 1, N. Y.

THE SHOW



NEW EQUIPMENT *Announced at the Show*

Exposition visitors will see for the first time the models and accessories featured in this section. Manufacturers are constantly applying latest technological developments to bring you the most efficient equipment for low cost operations.

1000-POUND FORK TRUCK

BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Co. is revealing a center-control fork truck of 1000 pounds capacity. The unit is expected to find application in plants where narrow aisles, congested areas, limited floor capacity, small and low capacity elevators are a factor and wherever loads can be limited to 1000

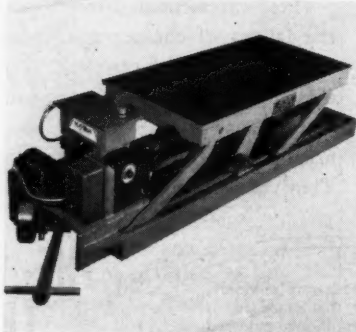


lbs. The truck has a 36-inch wheel-base and an overall length, exclusive of forks, of 53½ inches. To make a right angle turn the truck requires 67½ inches plus the length of the load. It is 28 inches wide and weighs 3800 pounds with load. The dimen-

sion from the center of the drive wheels to the heel of the forks is 7½ inches. The travel controller provides three speeds forward and reverse. The battery has a capacity of 6.7 kilowatt hours and is said to be ample for 12 full hours of work. The motor generator type charger is automatic.

SHEET LIFTER

MAY-FRAN ENGINEERING, INC. announces a Sheet Lifter for maintaining constant working height of sheet steel packs at presses, shears and other fabricating machinery. It is portable and hydraulically operated,



with a lift capacity of 12,000 pounds. In lowered position, table top is 11 inches and when raised, 30 inches. The lifter is equipped with a variable speed transmission, with attached ¾ hp., 3600 rpm., 220-volt, three-phase, 60 cycle motor and pump. The table top measures 28 inches by 72 inches.

BULK CARRIER

A BULK carrier, known as the Prime Mover by Bell Aircraft Corp., has been introduced to the material handling field. It has a bucket which is interchangeable with a platform deck.

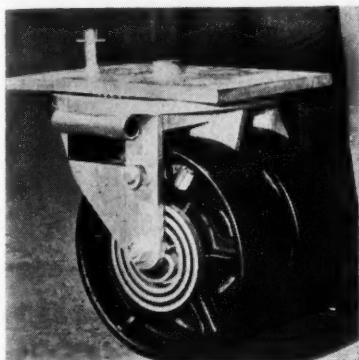


The device, weighing 350 pounds, has a capacity of 1000 pounds. Bucket volume is reported at 10 cubic feet and the platform size is 30" x 44". The bucket and platform dump mechanically. The device is powered by a two-cycle, air-cooled gasoline engine having a bore and stroke of 3" x 3¼". Bucket and frame are constructed of cast aluminum alloy. It is equipped with three pneumatic-tired wheels.

GIANT CASTERS

G IANT, double wheel "floating hub casters," believed to be the largest in the world, will be shown by The

Bassick Co. Each caster weighs approximately 675 pounds and has an



operating capacity between 20,000 and 25,000 pounds. The casters were designed for use under the landing gear of aircraft during production and positioning after completion.

PNEUMATIC BLOCK FORK

A PNEUMATIC building block fork is announced by Service Caster & Truck Corp. The pneumatic tubes, shown on the inside faces of the fork



times, are inflated from a compressed air tank, designed to give instantaneous controlled pressure. The expanded tubes grip the stringer blocks on which the cube is built, with the load resting on top of the fork in the usual manner.

HIGH LIFT TRUCK

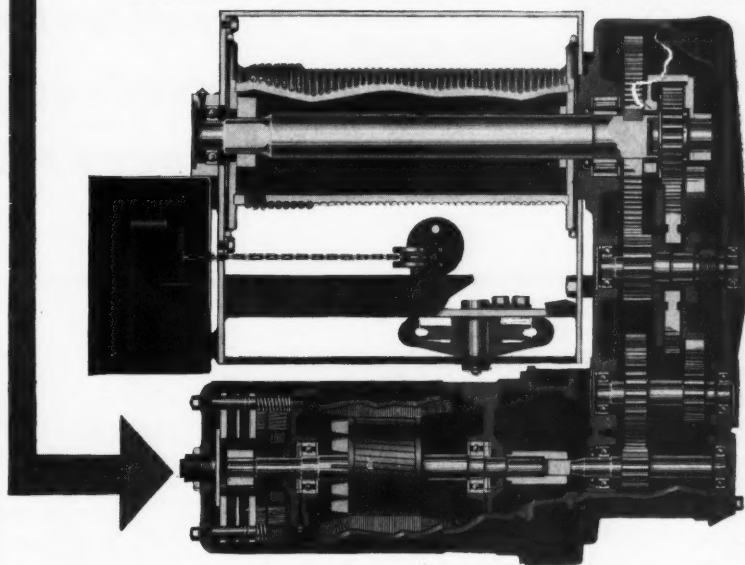
THE Skylift Brawny, Automatic Transportation Co.'s new fork truck for handling loads of four to



eight thousand pounds, offers new lifting heights. The Brawny incorporates (Turn to page 128)

SOMETHING NEW IN HOISTS

...SELF-EQUALIZING BRAKES FOR "SMOOTH AS SILK" OPERATION



New self-equalizing, automatic motor brakes make Robbins & Myers electric hoists *better than ever*. Here is really *smooth* hoist performance... quick, sure action that you can *depend* upon... trouble-free operation that speeds materials flow, *boosts* production.

LONGER LIFE, LESS UPKEEP

Self-aligning discs equalize pressure and wear evenly over all braking surfaces—large friction areas insure long life, *maximum efficiency*. And should adjustment be desired, all you do is turn a single *external* set screw. Maintenance? Negligible!

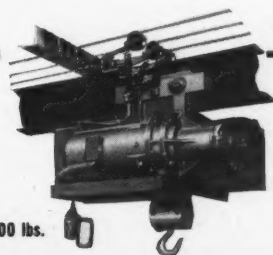
MORE OUTPUT WITH LESS EFFORT

R & M hoists and cranes give you fast, efficient lifting and moving. Workers tire less, produce *more* with these easy-to-use labor-aids. Types and sizes for all purposes. Let us show you how R & M's can step up *your* profits, too. For full details, write to R & M Hoist & Crane Division.

"Take it UP with R & M"

Low-headroom hoists from 250 to 20,000 lbs. Push-button, pendant-rope, or remote control. Stationary, hook, or trolley mountings.

Type F1—Capacity, 1000-4000 lbs.



ROBBINS & MYERS • INC.

SPRINGFIELD 99, OHIO • BRANTFORD, ONTARIO

MOTORS • HOISTS • CRANES • FANS • MOYNO PUMPS

AMERICAN MONORAIL

Equipment

**Increases Plant Capacity
Increases Production Pace
Conserves Skilled Labor
Reduces Damage and Loss**

AN AMERICAN MONORAIL SYSTEM permits compact arrangement—converts ceiling space to profitable use—overcomes congested conditions—reduces storage around machines—increases warehouse capacity. FOR PRODUCTION, it systematizes flow of material—provides process in motion and decreases idle time. FOR LABOR, it eliminates handling fatigue—reduces accidents with heavy loads—requires no full-time operator and permits work at

convenient heights. AN OVERHEAD HANDLING SYSTEM ends floor deterioration—assures safe handling of product—reduces damage in motion.

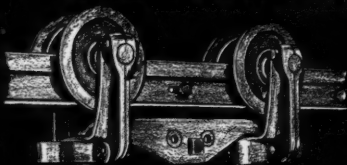
Whatever your handling problem may be, there is an American MonoRail system adaptable to it. From the simplest hand-operated unit to the most complicated fully automatic system, American MonoRail Engineers can suggest methods best suited to your problem.

THE AMERICAN **MONORAIL** COMPANY

13129 ATHENS AVE.

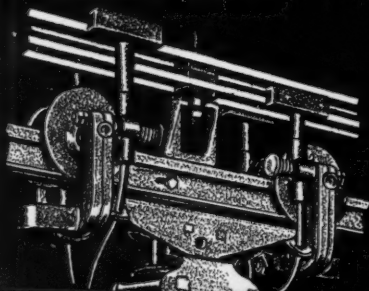
CLEVELAND 7, OHIO

EASY ROLL
TROLLEYS

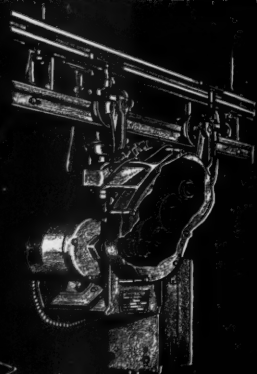


TWO-PIECE FORGED YOKES

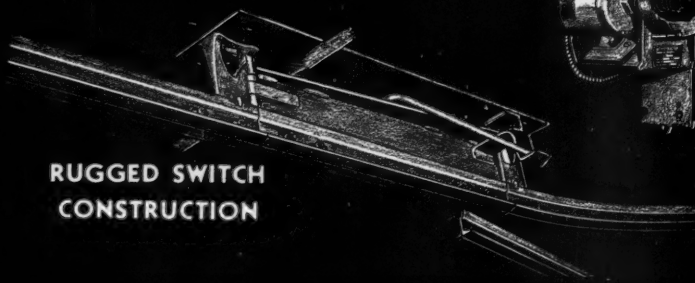
COMPACT
ELECTRIFICATION



SPUR GEAR
MONOTRACTOR



RUGGED SWITCH
CONSTRUCTION





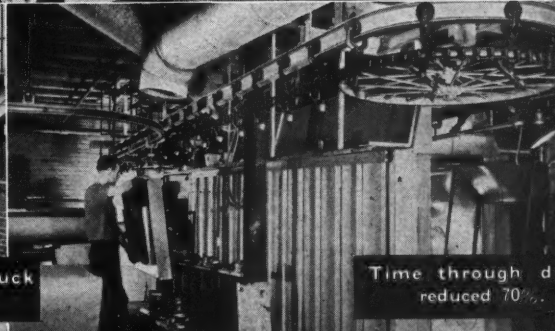
Saves 31 hrs. unloading
car of pig.



Delivers metal w
60% less labor.



AMERICAN MONORAIL

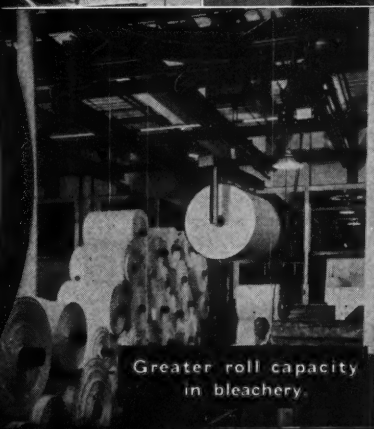


Time through d
reduced 70%.

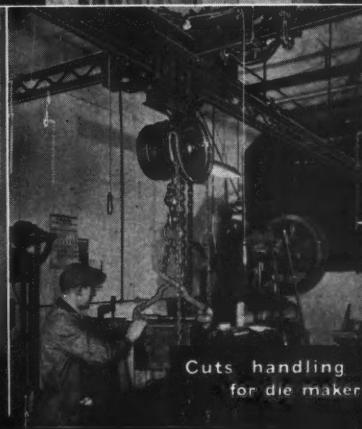


Send for Bulletin C-1.
A 56-page book show-
ing successful appli-
cations of American
MonoRail Systems.

Saves \$20 per truck
unloading sheet.

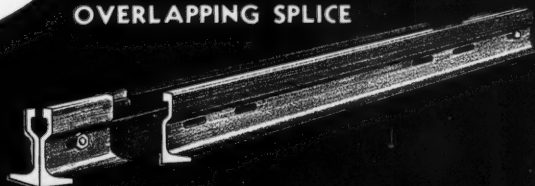


Greater roll capacity
in bleachery.

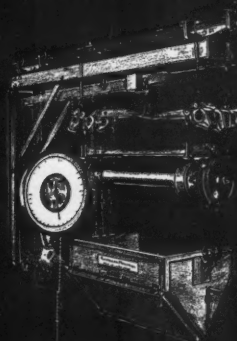


Cuts handling
for die maker.

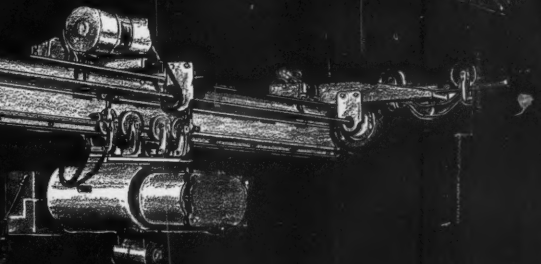
OVERLAPPING SPLICE



SCALE HOIST CARRIER



FREE MOVING CRANES



ON THE



PALLET

NEWS · VIEWS · TRENDS

THEW SHOVEL CO., manufacturer of power shovels and cranes, has declared a dividend of \$1.50 per share on its 151,982 outstanding shares of common stock. This brings the 1947 total dividends to \$3.50 per share, compared with total 1946 dividends of \$2.50 per share. The directors also declared the usual dividend of \$1.75 on the preferred stock. C. B. Smythe, company president, announced that the net sales for the 10 months ended October 31, 1947 were 90% ahead of the same period for 1946, with profit margins showing marked improvement.

THE St. Regis Paper Co. has announced acquisition of all outstanding stock of the Ellsworth Forest Products Corp., of Ellsworth, Maine. The purchase increased by 82,000 acres St. Regis' timberland holdings in Maine and brought the company's total in the United States and Canada to more than 1,700,000 acres.

ALLEGHENY LUDLUM STEEL CORP. has placed an order for a 40-inch electrically powered slabbing-blooming mill. It will replace the blooming mill at the company's Brackenridge, Pa., plant. The mill, with a 60-ton heavy-duty crane, feeder and approach tables and electrical equipment, will cost about \$3,500,000, it was said, and is being designed expressly for working stainless and other high alloy steel ingots.

EMployees of the Elizabeth Iron Works presented a hand-lettered message of appreciation and commendation to Harry and Irving Diamond, owners, on the occasion of the company's fortieth anniversary.

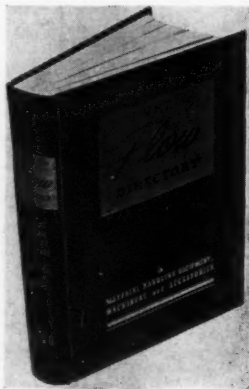
MANUFACTURE of a comparatively simple cigarette lighter in an eastern plant involves 156 operations, including drawing, welding, soldering, heat treating and other metalworking processes.

A NEW method of jeep-mounting an arc welding generator has been announced by the Harnischfeger Corp. The new installation was planned to overcome certain objections to direct engine coupled welding generators. Direct drive meant that the engine had to be run at a high speed, about 2800 r.p.m. for proper welder performance, which was undesirable from the standpoint of operating economy. P&H engineers coupled a standard welding generator to the rear power take-off. Pulleys of the proper ratio permit the engine to operate at approximately 1500 r.p.m., enabling the welding generator to operate at peak efficiency over its welding range, from minimum to maximum.

WHEN the curtain rises January 26th on the Fifth All-Industry Refrigeration and Air Conditioning Exposition in Cleveland's Public Auditorium, it will reveal two acres of displays and demonstrations of the last word in refrigeration units and equipment. More than 200 exhibitors will have presentations of industry-wide interest.

OFF THE PRESS

The FLOW Directory of Material Handling Equipment will be available at the FLOW booth 722. Price per copy is \$6.00, and mail orders will be accepted at the same price. The Directory, the first of its kind, has been designed as a reference guide for engineers and others responsible for efficient, low-cost material handling.



SPECIAL photographic plates, which will be used in the 200-inch Palomar telescope, have emulsions that are four times "faster" than those on astronomical plates in 1928, the year the big telescope project was begun.

THE initial phase of the Wirebound Institute sponsored by the Wirebound Box Manufacturers Association has just been completed. As a course of technical training for the entire qualified personnel of an industry, the Wirebound Institute is said to be unique among trade association activities. It is believed to be the only time in trade association history that a concerted industry-wide effort has been made to disseminate technical training to the personnel of member companies.

E. W. BUSCHMAN CO., conveyor manufacturer, has expanded its manufacturing space to 62,000 square feet by the purchase of an entire building in which it formerly leased space in Cincinnati. The plant has a rail siding and is equipped with 17 overhead traveling cranes.

HOW AUTO MAKER CUTS SHIPPING COSTS

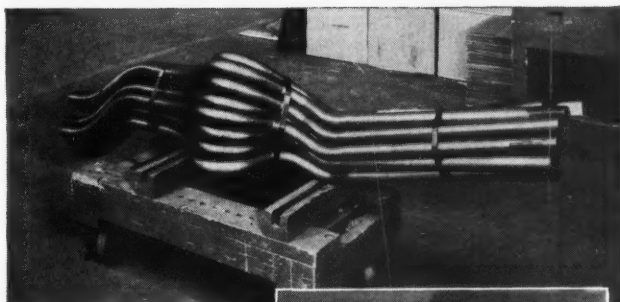
Nash Motors Division uses low-cost Acme Steelstrap to speed units to production line.

The Milwaukee Parts Plant, Nash Motors, Division of Nash-Kelvinator Corporation, relies upon Acme equipment and material to handle its bulk packing problems.

Acme Shipping Specialists helped Nash engineers devise packing operations that materially reduced costs and facilitated movement and safe shipping of units between plants. (See the three examples of better shipping at lower cost on this page.)

Acme Shipping Specialists will be happy to consult with your company on specific or general problems of packing and shipping. They can help you, and without obligation.

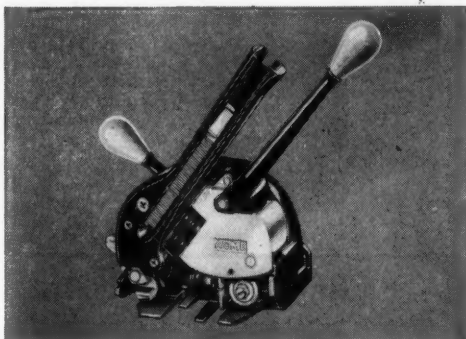
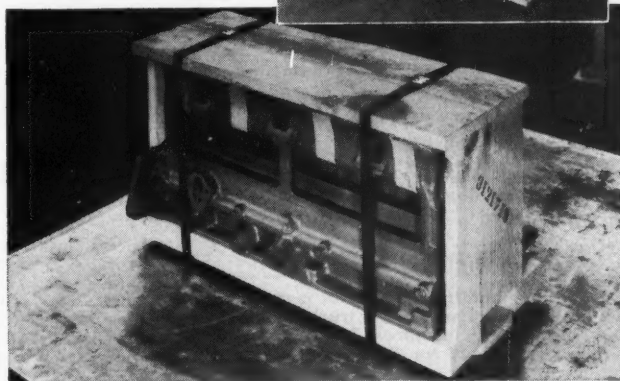
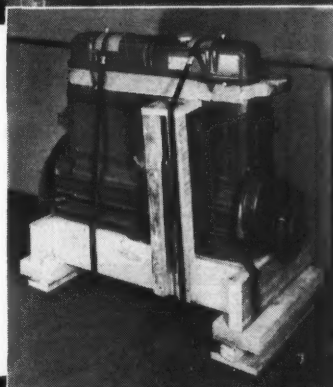
Find out how Acme Steelstrap users in many industries now show a *profit* in their shipping rooms. Send for free case history booklet, "SAVINGS IN SHIPPING."



50% SAVED! Acme Uni-Pak, in which a bundle of tailpipes is wrapped with three bands of Acme Steelstrap, reduced packaging costs about 50%.

BETTER! Acme Steelstrap holds wood members in place and helps protect breather pipes. Steelstrap and two short pieces of strip steel firmly hold engine to skid.

75% SAVED! Present cost of packaging Nash engine cylinder blocks with Acme Steelstrap is only 25% of old method . . . labor and material saved!



NEW! More savings ahead with Acme No. 3 Steelrapper —the lightest tool made. Magazine holds 100 seals. Tensions, seals, and cuts the strap in one operation. Small base requires only 5-inch strapping surface. Two levers working in opposite directions make for excellent balance and easy handling.

ACME STEEL COMPANY

NEW YORK 7 ATLANTA CHICAGO 8 LOS ANGELES 11

JANUARY, 1948

MAIL THIS COUPON TODAY!

Acme Steel Company, Dept. F-18
2838 Archer Avenue
Chicago 8, Illinois

Please send me a copy of your case history booklet, "SAVINGS IN SHIPPING."

Name

Company

Address

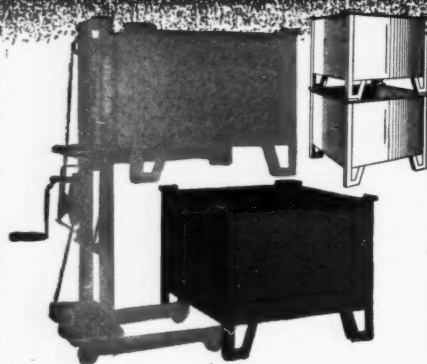
City Zone State



**ACME STEEL CO.
CHICAGO**

Everything You Need in

MATERIALS HANDLING EQUIPMENT



All-Steel STORAGE BIN Item 1024
\$3115
(Stacking Type)

Excellent for storing small parts in limited floor space. Four-way entrance for use with hand, power lift, or fork truck. Can be built with crane lugs. Stacks easily.



Item B-465-B
Automatic Dump Box
\$79.00

Item B-465-Y
Dump Box Yoke
\$50.00

Automatic DUMP BOX

Designed for handling all types of materials. May be used with hand, power truck, or overhead hoist. Gravity latch locks box in upright position until ready for dumping—pull on latch releases the box—dumping is automatic.



Item B-380-1 1/2
\$383.55

Side Dump TRAILER TRUCK

Used for hauling scrap, metal, gravel, rubbish. Equipped with gear type rockers that provide smooth-action dumping. Automatic coupler at rear. Dumping is controlled from either side, whichever is desired.

BARREL TRUCK

It Loads Automatically

Handles barrels up to 1000 lbs. To load, shove truck up against barrel or drum, drop the sliding steel catch down over the rim—pull truck handles toward you and it will load automatically. Durable, all-steel, welded construction—built for rough usage. Greatest width at any point is only 22", permitting easy passage through narrow doors and aisles.



Item S-911-M
Equipped with roller bearing.
\$335.00

Item S-911-P
Equipped with 12x4.00-6 4 ply bias ply tires and fenders.
\$450.00

Item S-911-R
Equipped with 10" roller bearing, swivel casters, and rubber wheels.
\$385.00

SHOVEL TRUCK

Speeds up handling of heavy barrels, hampers, cases or cartons. All welded steel construction—a truck that will stand up under rough usage.

Item B-339-B
Roller Bearing metal wheels

\$27.50

Item B-339-C
Rubber tire, roller bearing wheels

\$32.50



PALLET RACK and NESTING RING



Designed for handling irregular pieces, this single face pallet rack with stacking corners is of special rolled steel—all welded construction.

Item B-727

HAND DUMP TRUCK



Item NS-298
\$46.50

Constructed of heavy sheet steel. Heavy steel handle welded to body. Top measures 25 1/4" by 45". Depth is 17 1/2". Overall height 23". Equipped with two 8" steel wheels, two 4" metal swivel casters. Especially desirable for handling screw machine scrap.



CARBOY TRUCK

Gripping yoke loads automatically

A truck to move your dangerous acids and chemicals with ease and safety. Simply roll truck up against carboy and drop gripping yoke over the top—pull back on the truck handles and loading is completed. All steel welded construction. Curved handles provide secure grip and comfortable handling. Capacity 500 lbs. Equipped with metal or rubber wheels.

Item B-488-M **\$3800**
(Metal Wheels)

Item B-488-R **\$4200**
(Rubber-tired wheels)

Combination TRUCK and DRAIN RACK

Loads Automatically

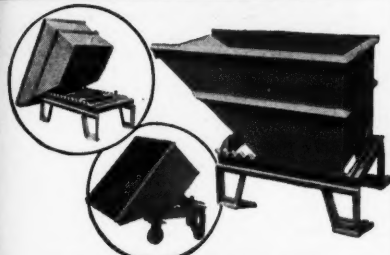
A dual purpose truck that can be used to move barrels or drums and also serve as a drain rack. Available in two styles—with or without detachable handles.

Item NS-506 (Handles welded to frame)..... **\$4250**

Item NS-506DH (Truck complete with detachable handles)..... **4450**

Item NS-506R (Item NS-506DH without handles)..... **3250**

Item NS-506H (Detachable handles only, for use with Item NS-506R) **1200**



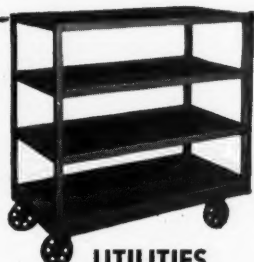
Automatic END DUMP

For Use with Lift Truck

For handling and dumping sand, castings, scrap, stampings and other heavy materials. Available in two sizes, price with casters on application.

Item S-878-A
 $\frac{1}{2}$ yard capacity
\$13000

Item S-878-B
1 cu. yd. capacity
\$14800



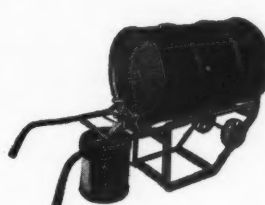
UTILITIES

RACK ON WHEELS

Two Standard Models

Item NS-415-M
(Roller bearing, 6" x 2", all metal wheels) **\$6160**

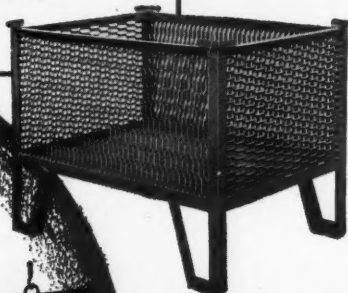
Item NS-415-R
(Ball bearing, 8" x 1 $\frac{1}{2}$ ", rubber-tired wheels) **\$6380**



VENTILATED BOX

Item B-886

Designed for rapid, uniform cooling of hot metal parts, castings, forgings, etc. Can be used with fork or power lift truck—available with stacking lugs if desired. Provides immediate identification of parts.



Heavy Duty DIE TRUCK

Just the thing for heavy dies, jigs, fixtures, stampings or heavy, cumbersome loads being continually moved from one machine to another. Can be built in special sizes to meet specific requirements.

Item B-768



Item B-731 **\$16500**

DRUM and BARREL TILT

Barrel tilt for controlled, precision dumping or pouring. Ideal for chemicals, solvents, powders, etc. Turns 360° through worm drive. Equipped with two safety locking devices and all steel, welded yokes. Hand operated chain drive.



Palmer Shile Co.

ON-THE-SCENE REPORT

HANDLING BUILDING BLOCKS BY *Pneumatic Fork*

**FORK TRUCK —
PNEUMATIC FORK**

By **HAROLD E. GEIST**

General Manager

The Geist Coal and Supply Co., Cleveland

OUR company manufactures cinder and other light-weight aggregate blocks. In 1940 we started cubing by use of the multi-tined fork, a method introduced in this industry by our President Herbert F. Geist as a means of avoiding the costly handling of industrial blocks in yarding and loading of delivery trucks. At the 1941 convention of the masonry asso-

The Geist Coal and Supply Co., Cleveland, made news in the building block industry, when it introduced cubing in 1940, a method originated by its president, Herbert F. Geist. The company is again making news as the first user of a pneumatic block fork—introduced here for the first time. The Geists gladly made their plant available to the fork truck manufacturer for experimental purposes, and after six months of trials and refinements, the bugs seem to have been removed. This is the story of the early handicaps, how they were overcome, and the job the new fork truck attachment is doing at the Geist plant.—Ed.

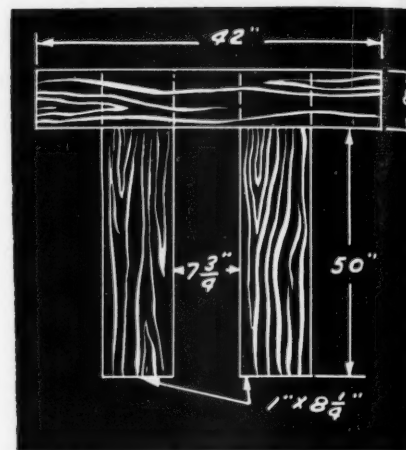
ciation in Buffalo, movies and stills were shown of our operation for discussion and consideration of the idea by the assembled block manufacturers.

Bulk handling by use of cubing spread, but after we had employed this method for some time we discontinued it temporarily because of certain problems we encountered.

We confined fork truck operations in our plant to the handling of racks to the block machines, the curing rooms and to the truck loading platforms.

Here are the drawbacks which determined the temporary interruption of cubing at our plant. The rigid type of fork in use at the time could enter the core holes of 6x8x16 and 8x8x16 blocks, but not those of other standard and fractional sizes. We produce blocks in a large variety of sizes and styles, and with a daily peak production capacity of 35,000 blocks there were too many we could not handle economically with the equipment available.

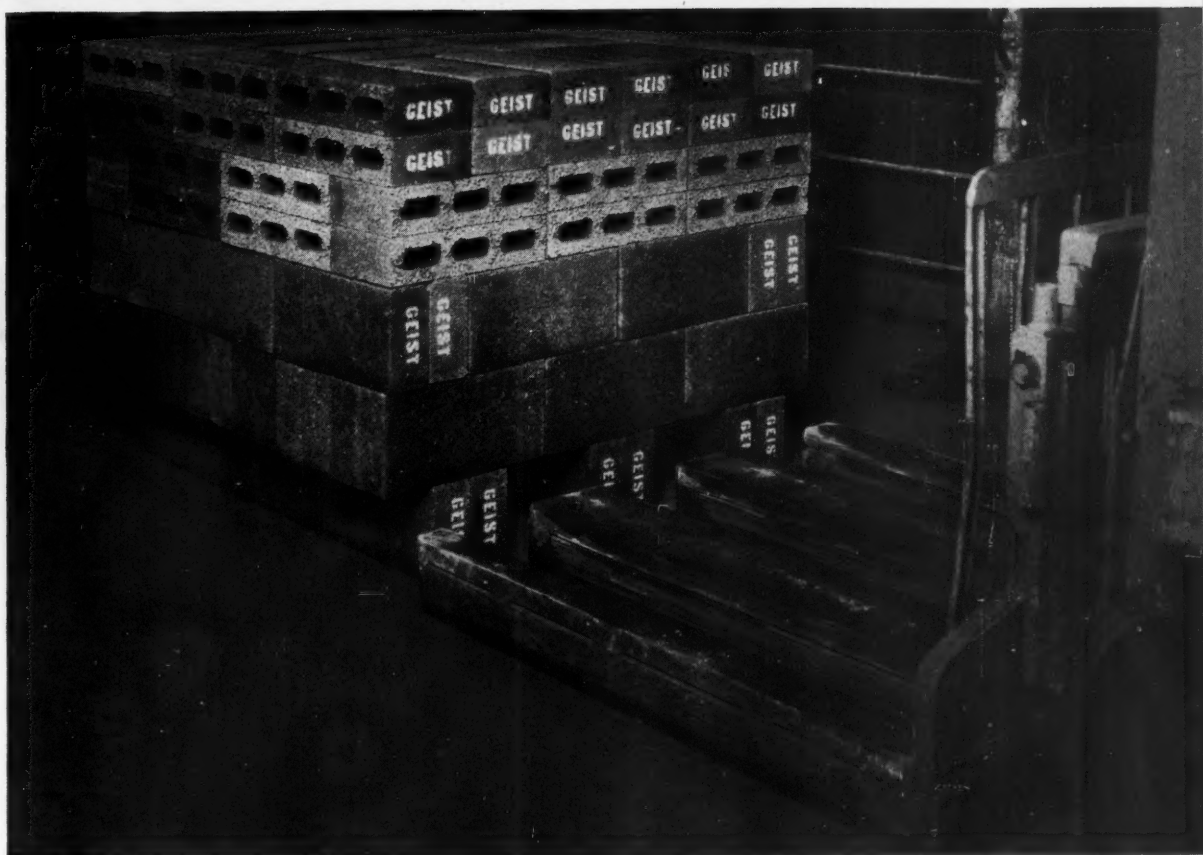
Other plants in the industry are overcoming this problem by using a bottom layer of standard size blocks as a "pallet" base on which the specials are cubed, and the standard blocks are usually brought back from the job to the plant by the returning delivery vehicles. After study of this practice in our own operation, we decided against it. We ship a sizable volume of



TEMPLATE for three blocks out from face of pneumatic truck.

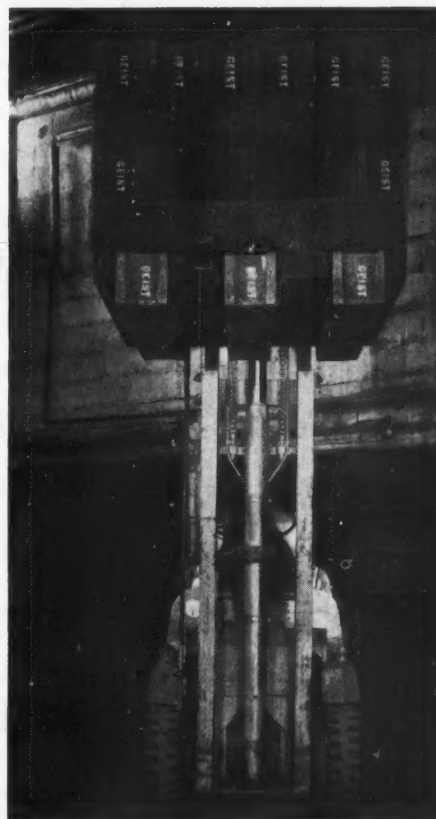


CUBING OPERATORS need not walk. Three templates are used instead of two if truck is interrupted.



PNEUMATIC TUBES on inside faces of tines. Load will be lifted slightly before inflating tubes that grip stringer blocks.

INFLATED TUBES hold any size blocks that can be laid down between the tines of pneumatic fork.



"specials," and we therefore wasted a considerable percentage of the load capacity of delivery vehicles with the returnable blocks. The load to be brought back was not infrequently a substantial part of the total load, sometimes 10 percent, and more, of a vehicle's capacity. This problem is naturally minimized in plants which ship a limited quantity of specials, but in our operation it loomed large.

Chipping and breakage was another handicap. Too frequently loads were impinged on lines or points instead of being carried flat on the forks. Block has a low tensile strength because it is built for crushing strength, and hence mechanical pressure caused breakage. They are more subject to breakage after a 20-hour steam curing cycle than at any later period.

Another problem was that we loaded the cubes both on flat-bed trailers and dump trucks, involving side loading as well as end loading. Moreover, during the war years the blocks were loaded out

fast and, what with the general scarcity of material handling equipment at the time, the cubing method at our plant remained temporarily sidetracked.

Accuracy is required to pick up block cubes with either the rigid type or air-expanded fork. This required the paving of our storage yard to eliminate side-sway or bucking of the lift truck during the time the operator was inserting the forks into the core holes. We had a network of 8-foot runways crisscrossing our yard, but it was not until early 1947 that we accomplished complete paving of the area.

Early Problems of Pneumatic Block Fork

We were open to suggestions for a type of fork that would be able

permission to test the attachment designed especially for blocks, we were only too glad to cooperate.

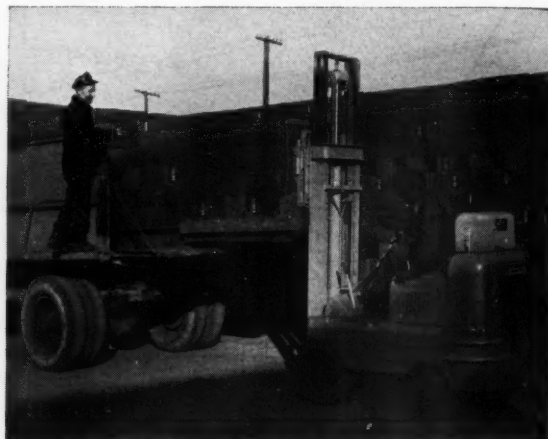
Two features of the fork appealed to us in particular. 1. That

In other words, no pieces of foreign material could lodge in them to cause momentary stoppage of the work.

The tests under actual operating



STACKING. Air pressure is released just before load is spotted, to prevent excess wear on tubes.



END LOADING. Cube on rear of vehicle is pushed to front by cube on fork. Loading is done fast.

to handle a maximum number of the block sizes we produced and which would at the same time eliminate the other difficulties mentioned. When the designer of the pneumatic block fork requested

the gripping surface was of rubber, inflated by compressed air, thus reducing the possibility of breakage. 2. That the rubber tubes on the inside faces of the fork had no mechanical parts to go wrong.

conditions started in June of 1947, and since then the early mechanical problems have been eliminated. I believe these are an illuminating part of the whole story.

Originally we started with a five-

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● **STYLE No. 5**—New four-way pallet for hand trucks and fork trucks, featuring corner-lock construction. This pallet is made entirely of dry Cottonwood, well known for its toughness and light weight. Made only in 40"x48" size, for use in freight car or trucks. Weight, 55 pounds.

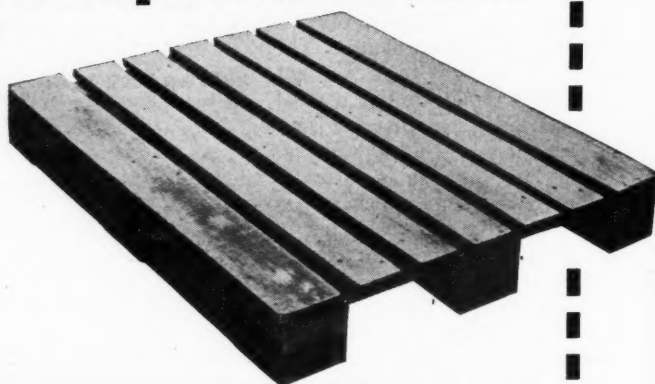
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RAZORBACK PALLET CONSTRUCTION:

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Plant in Pine Bluff, Arkansas—Sales Office in Little Rock, Arkansas;
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lined fork, with four rows of two blocks out from the face of the carriage, giving us a 15-inch load center on the 4000-pound fork truck. We found that the resultant cube was too wide and short. Its awkward shape entailed difficulty in handling as well as in loading.

Next, we went to a four-tined fork, the present model, with three blocks out from the face of the carriage. The 4000-pound fork truck

MECHANICALLY SPEAKING

The pneumatic tube on the inside face of each tine is operated by compressed air from the compressor tank mounted behind the driver (it can be attached at any convenient location). Because of the original 10 to 20-second inflation period, the present models have a reserve tank to give almost instantaneous controlled pressure to the fork tubes. Control between five and 20 pounds of pressure is provided by a pressure-operated switch, which operates a solenoid mounted between the tank and the tubes. The pressure is set at 20 pounds, the p. s. i. required for this weight of load.

When inflated, the tubes grip the stringers ("finger blocks"), with the load resting on the forks. The surface of the tubing is of heavy-duty rubber stock with a tire tread.

using this attachment had a 40-inch wheel base, which we wanted to retain for reasons of easy maneuverability and short turning radius. With three blocks out, we added to the counter-weight of the truck, giving us a 24-inch load center on the unit of the same capacity. The resultant load also gave us the better cube we needed, with 50 to 150 blocks per cube, depending on block size.

Another problem was that the first fork was two inches too long, which prevented the fork truck operator from butting one cube against the others. We brought another point to the attention of the designing engineer. The inflation

period of the fork tubes was originally from 10 to 20 seconds. We thought this slowed the operation to some extent. The engineer attacked this problem as well and remedied it to our satisfaction. The design of the tube has also undergone changes for maximum holding surface and wearing quality. Details of the operating principle of the fork are given in the Mechanically Speaking section of this article. Like the standard multitined block forks, the pneumatic fork also has a side shifter, en-

abling the truck operator to spot a cube tight against the others without jockeying.

We contemplate the addition of a recessed light at the tip of each of the fingers, in addition to the spotlights mounted on either side of the mast. The lights at the finger ends, recessed to prevent their damage, will serve to illuminate the cube exactly where needed.

The Problem Remedied

The cubes are built with tem-

Machine capacities INCREASED 65% to 95%

at Ed Roos Company, Makers of Fine Cedar Chests



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plates in common use in brick and block operations. The cubing area is within the building adjacent to the curing rooms (for minimum truck travel). As can be seen from a sketch on these pages, the spacer or template is made of 1"x8 1/4" lumber, 58 inches long, the two boards connected at one end with a 2"x8" crosspiece which is 42 inches long. After the three rows of stringer blocks have been placed in position, the layers on top are laid down in interlocking pattern for maximum stability of the cube during subsequent stacking and loading.

Where powered equipment is adopted, specific production methods must usually be developed in order to obtain maximum machine hour production. Here is the method we worked out for cubing. Two templates are used in the cubing area by a two-man team. One rack of cured blocks is placed within reach of each worker. The operators work simultaneously on a cube, each from one side. In reaching for the next block as well as in cubing it, the work station layout

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merely requires the men to shift their weight from one foot to the other, without taking any steps. When one cube has been built, the next one is immediately started around the second template. Meantime the fork truck picks off the completed cube and stacks it in the stockpile.

This method has worked very satisfactorily where the haul between the cubing area and the stacks is short. Where the distance is relatively long, or where occasional interruptions in the truck operation can be expected, a third template can be added for use by the cubing operators.

It took us several weeks in order to develop the proper patterns for the different sizes of blocks. While the 8½" spacing between the fork tines was designed to accommodate the standard eight-inch block, the fork works just as well when the stringers or finger blocks are two of four-inch size, laid side to side. From 90 to 95 percent of our present output is subject to cubing.

To aid speedy cube handling in
(Turn to page 119)

SEND US YOUR REQUIREMENTS ...and we'll supply THE CRANE TO MEET THEM!

Euclid builds cranes in a wide capacity range in various spans and control systems to meet all industrial demands.

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FIG. 16-24
Two-Wheel Trucks for Every Use

FIG. 419-421 Jack and Live Skid

Casters, All Types.
Light, Medium, Heavy Duty

Wheels with Demountable Rubber Tires

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FOR ADVICE ON MATERIALS HANDLING



FIG. 1136

One of Many Sizes and Styles of Bar Handle Platform Trucks

NOW is the time to Engineer your Materials Handling

Your materials handling system needs to be just as carefully planned and engineered as your production set-up, or the design of your products. A planned layout may well be the difference between profit and loss, between smooth-flowing operation and a time-wasting series of bottlenecks. Take advantage of the seasoned experience and valuable advice of a Nutting Engineer. Because the all-around adaptability and versatility of Nutting Trucks has never been excelled, he can advise you on the proper use of trucks with overhead or floor conveyors . . . assembly or production line use . . . interdepartmental use . . . warehouse or shipping room use . . . as well as situations where only trucks should be used.

LOOK in your Classified Telephone Directory to contact your nearest Nutting Sales Engineer, or write to us direct. Ask for Bulletin 48-G.

MATERIALS HANDLING EXPOSITION

BOOTH NO.

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CLEVELAND

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NUTTING TRUCK & CASTER COMPANY

1602 DIVISION STREET WEST, FARIBAULT, MINNESOTA

JANUARY, 1948

our
57th Year



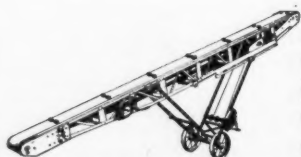
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Farquhar **CONVEYORS**
PORTABLE OR PERMANENT
MATERIALS HANDLING

HOW CIRCULATOR LAYOUT WORKS . . .

(Continued from page 60)

head chain for movement to the order assembly area. Reference to the flow diagram shows that the outbound lines move toward this area, the return lines back toward receiving. Trailers loaded from stacks near the center of the circle could of course be hauled by tractor direct to order assembly.

It may be noted in passing that each segment would lend itself to being used as a "zone" for a particular group of commodities. This would enable the clerk in each section to know his stock intimately, and thus to operate with efficiency because no time would be lost in search for stock in wrong locations or empty bins. The break-down by segments would also contribute to simplified paper work procedures.

In the order assembly area, the loaded trailers could be discharged mechanically. One proposal is to use alternate long and short attachment hooks on the drag-chain, which would operate tripping devices at each end. A slight ramp at the tripping point would cause the disengaged trailer to roll out of the path of the trailers that follow.

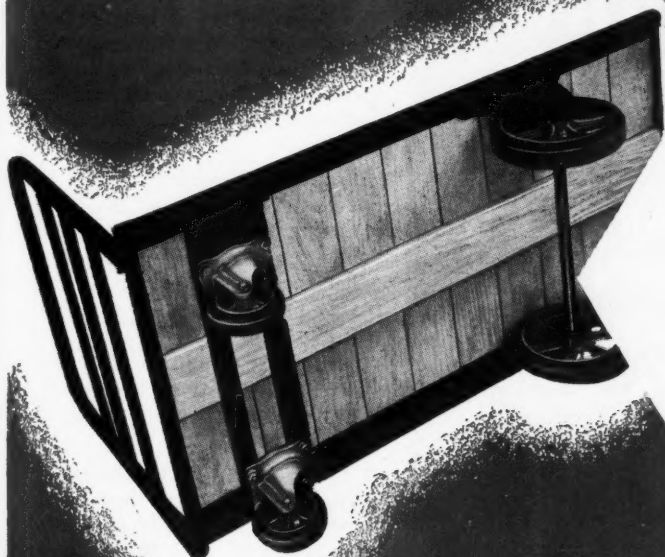
In accordance with the master order form, the order assembly area is divided into several sections by shipping destination and type of carrier.

We'll assume that one of the previously mentioned refrigerators has been delivered to location A-15. Here it is joined by the sofa, the plumbing fixtures—any material from any of the other bays. The arriving goods are conveniently routed over the circular three-lane truckway to the correct order assembly location.

Another possibility is to design the center lane as a revolving floor. In that case, the trailer with the refrigerator would be pushed on this moving floor, which would have its crew of operators. The responsibility of these men would be to shunt the loaded trailers to the locations indicated on the orders.

However, the tractor-train method seems to be preferable to the moving-floor idea in this type of operation. If the drive mechanism of the moving section should break

FLOW



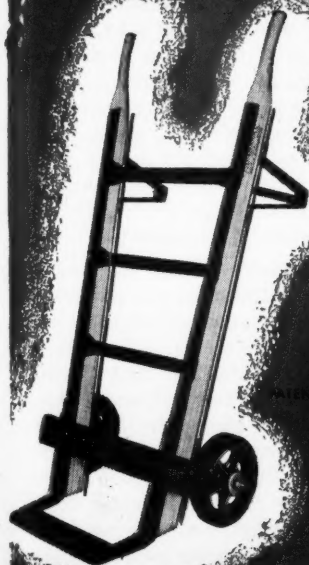
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WHERE IT'S NEEDED

WOOD

WHERE IT'S NEEDED

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● Your truck costs go down and your men get more done in less time with Fairbanks Steel-Framed Hand and Platform Trucks.

The reason is simple. Fairbanks has effectively combined the structural advantages of steel and wood to provide hand and platform trucks that stand up under all kinds of punishment in service . . . that have shock-absorbing qualities which cushion heavy loads, dampen vibration, reduce operator fatigue.

Like all Fairbanks Trucks (over 90 basic designs with hundreds of variations) each of these Steel-Framed trucks is developed from on the job experience to put the maximum speed and ease into specific types of load-handling. For example, the "Commander" Steel-Framed Platform Truck shown above comes in 20 sizes from 24" x 42" to 36" x 72", with 3 platform heights (18", 14", 9½") and Tilt or Non-Tilt running gear.

Full information on any one or the complete line of Fairbanks Trucks may be had from any of the offices listed below.

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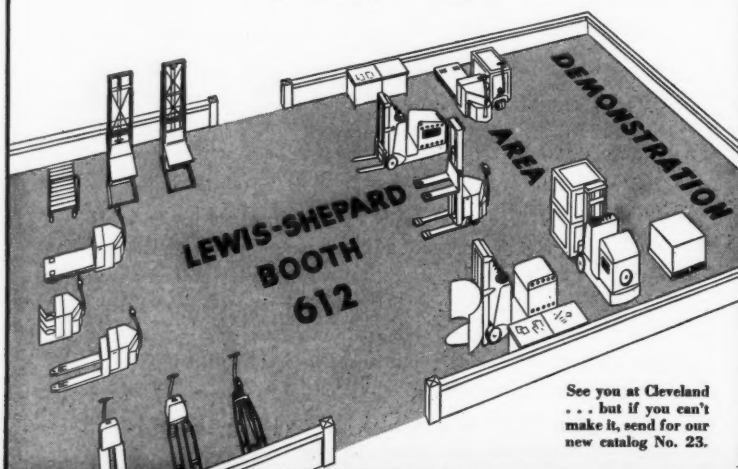
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down, there would be a stoppage of the entire flow. The moving floor might also be a safety hazard, even at a travel rate of 48 feet per minute. And it could not be fenced off. With the tractor-train method there would be greater flexibility and no danger of complete stoppage.

From the four-wheel trailers the palletized merchandise would be moved by fork trucks into the outbound vehicles. Small items not on pallets could be wheeled into the trucks for loading. As was indicated previously, the loaded trailer-trucks would move out by way of the outbound ramp through the tunnel under the building to the highway.

Now the disposal of the empty trailer units. Many of them would of course be shunted to the stockpiles adjacent to the circular truckway for reloading. Others would be attached to the return strand for reuse in the other order filling areas. At this end, too, a tripping device would discharge the unit. Again, a ramp would cause the trailers to roll out of the way of those traveling behind it.

This proposed method would maintain a continuous flow of trailers—by chain conveyor to the assembly area, by tractor to the specific order assembly station, then by tractor and/or drag-chain back to the storage-selection areas. The prompt return of the empty units would avoid delays all along the line and facilitate order selection and routing of merchandise.

As stated earlier, the whole scheme of the design is subject to variations that would fit it to particular requirements. The same is true of material handling devices to be used. There are many other possibilities open for combining different types of equipment as determined by specific products. Here's an example. Septic tanks and long lengths of pipe would be arriving in open-top cars. This material would be unloaded by special monorail carriers, with the overhead trackage extending over the spur section. The monorail track would lead to the stockpiles, eliminating setting down of such stock at intermediate points by providing a direct route from car to storage. This monorail equipment

FLOW

CONTEST WINNERS

Winners of the \$1500 FLOW Cost Reducing Material Handling Contest, which closed December 15, will be notified by telegraph as soon as judging is completed. Announcement of the prize winners will be made in February issue of FLOW.

could also pick the ordered material off the stockpiles and deposit it on the trailers for movement to the order assembly floor. Thus any type of conveying equipment considered best for a particular need could be worked into a specific material handling system.

The over-all scheme is designed for moving 68,000 cu. ft. of this general class of merchandise (the equivalent of 23 carloads) per eight-hour day for half of the area, or 136,000 cu. ft. for the area of the full circle comprising the 16 segments.

Material Handling Machine

This is the story of the circular warehouse design as a material handling machine. To us at the H. K. Ferguson Co. it seemed like one of the most promising solutions for the large-scale and complex problem outlined earlier. Frankly, we did not expect an immediate taker. The design is a departure from conventional rectangular structures, and sometimes purely personal reasons have stood in the way of its being translated into a reality. "We'll take the second one," a humorously disposed company official told me.

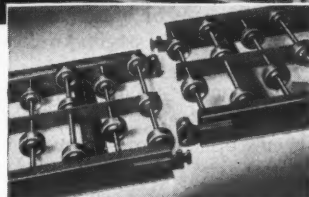
Again, that was to be expected. Conservatism has its good side. While it might be temporarily retarding, it nevertheless assures careful scrutiny of new developments, thus assuring their practical value.

The United States is by tradition and habit a country of people who "take the first one," preparing a new road on which others can follow. This has been true in the past of many innovations that are meeting the needs of our times. We at the H. K. Ferguson Co. believe that this will also be true of the circular warehouse designed in keeping with the requirements of the Era of Material Handling.



RIGHT:

Universal Couplings consist of a male and female unit on alternate ends of section. This permits inserting a section into line with either end forward. Thus avoiding necessity of turning sections end for end as frequently required with other types of couplings. Curves can be reversed without reversing adjoining straight sections.



FREE WHEELING

The power of gravity is FREE. Usually no other power is required with Logan Wheel Conveyors. This type of conveyor is ideal for portable use, or may be utilized at any place where light-weight products are to be handled.

Very lively ball bearing wheels operate with minimum grade, which is a distinct advantage in many instances. Any object having a solid and reasonably firm bottom, such as cartons, cases and tote pans can be readily handled. Other features are ease of setting-up which permits advantageous use in loading and unloading cars, also easy storage if such is desired in off season.

The Logan universal coupling feature is described above. Logan quick adjustable supports are another rapid set-up feature. Write for literature on Wheel Conveyors, or on Logan general industrial type equipment.



WHEEL Logan Conveyors

LOGAN CO. 558 CABEL ST., LOUISVILLE, KY

PATTERN FOR THE FUTURE?

Unloading Time . . .

STEEL STRAPPING—
FORK TRUCKS—
BRIDGE RAMP

Material: Crating lumber.

Method: Fork truck handling
of strapped packages.

262 bd. ft. per minute

THE EKCO Products Co., Chicago, uses crating lumber by the carload for the large volume of housewares and bakery pans it produces. EKCO not only has a reputation as one of the oldest and largest manufacturers in its field, but also as a concern that does not keep freight cars of incoming materials and supplies over two days on its siding.

The reason is a comprehensive material handling program, which has been applied more recently to crating lumber. This item of supply used to be a problem because of the "stick by stick" handling that was involved. With manual effort, it used to require 38 to 45 manhours to unload the average car of loose crating lumber. This was out of step with the efficient and safe procedures developed for the hundreds of other products and supplies handled throughout the large plant.

The material handling department suggested load units of strapped lumber, to be handled by fork truck, as the solution. The company subsequently ordered three carloads of strapped packages on flat cars. (EKCO has adapted the fork-truck-pallet method to its wide range of products. This phase of the operation will be covered in detail in an early issue. —Ed.) Allowing for some variations, the size of the individual load units averages between 2000 and 3000 board feet.

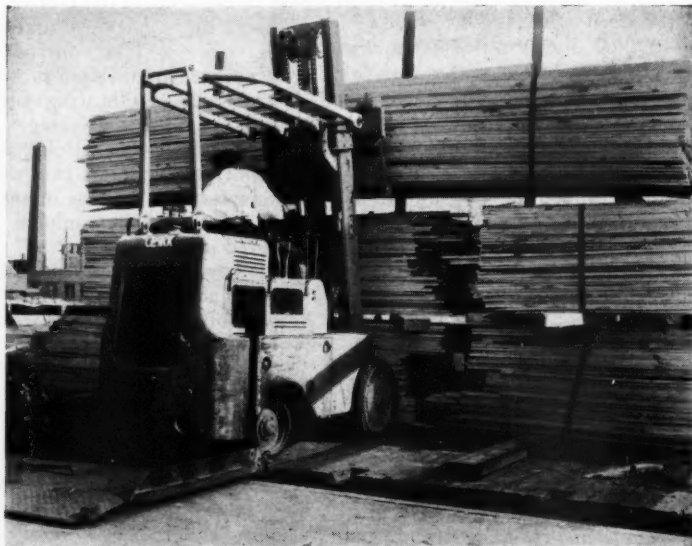
Efficiency Quickly Developed

The lumber was ordered on flat cars for the reason that the company's yard (where the stockpiles are located) is at car floor level, giving the 6000-pound-capacity



BRACING METHOD for strapped packages is simple, and a portion of car blocking is also reusable.

LOADS ARE ACCESSIBLE to fork truck from car-level yard. Ramp has lift bar for power handling.



fork truck direct access to the loads. The photos show the bracing method used, also the modern type of adjustable bridge ramp employed. Pieces of 4 x 4 lumber between packages provide the necessary clearance for truck fork entry. In view of the four-foot width of the packages, fork extensions are slipped over the regular forks. The large packages are secured with two bands of 1 1/4" steel strapping, as shown.

While the company's fork truck operators had been without experience in handling packaged lumber up to that time, the figures in the table show how quickly a little practice developed proficiency in this operation.

	Board Feet	Unloading Time
Car One	30,000	2 hrs. 50 min.
Car Two	42,000	1 hr. 50 min.
Car Three	35,000	1 hr. 20 min.

Unloading time of Car Two was one hour less than the time required for Car One. While No. Two contained 12,000 more bd. ft. than No. One, the experience gained with the first car was quickly used to advantage on the second car. Notice that the unloading of the 35,000 bd. ft. of Car Three was only 50 percent of the time used on Car One containing 30,000 bd. ft. The above figures are based on one fork truck operator and one laborer.

The length of the haul from car to stockpile averages around 300 feet, and the packages are stacked on dunnage for subsequent power handling. When needed for production, the individual packages are spotted by fork truck longitudinally on a 4-wheel trailer for entry through the plant door. Within the plant, a fork truck stacks the lumber adjacent to the crating station. Here the bands are snipped and the boards are used from the stockpile as needed.

Important Advantages

It should not be expected that the reduction in manhours in the unloading operation represents a clear-cut saving, since lumber producers still make a charge for packaging per 1000 bd. ft. This charge



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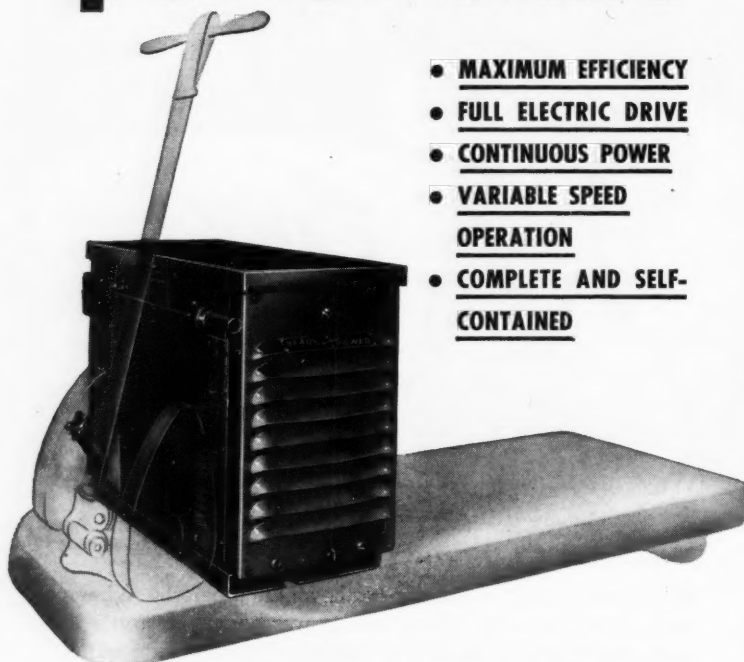
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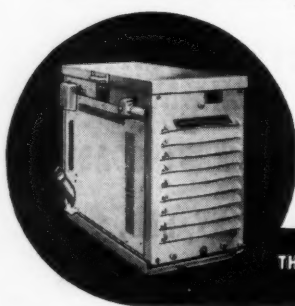


Ready-Power-equipped Motorized Hand-Lift Truck "inching" a load into a box car.

Ready-Power has been preferred power for electric industrial trucks for over two decades. The superior performance, long life and dependability of Ready-Power has earned the high regard of practical material movers.

Now, after long, careful development, Ready-Power is available for Motorized Hand Lift Trucks. In Ready-Power Model "Z" Units, specially developed for this service, all the desirable features of Ready-Power become available for the users of these small, hard working material handlers.

Bulletin No. 114 describing Model "Z" Units will be mailed to you on request.



THE **READY-POWER** CO.

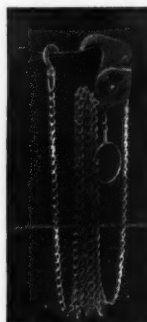
3836 Grand River Ave., Detroit 8, Michigan

is explained by the fact that many lumber producers are not as yet equipped for package handling. As the advantages of the new and more efficient method are recognized and finding wider acceptance by lumber producers, the packaging charge is expected to become a factor of relatively little importance.

Aside from the ultimate potential dollar saving, however, there are several operating advantages which rank importantly. 1. Man-hours saved in unloading can be profitably employed elsewhere about the plant. Based on the figures given in the table on Car Two, 262 bd. ft. can be unloaded per minute with the strapped package method as compared with the 10 bd. ft. per minute in the loose car. 2. With the elimination of the hazardous handling of individual boards one at a time, the fork truck operation is a distinct contribution to plant safety. 3. Another important factor is the quick release of freight cars in the current shortage of rolling stock. Not only are more cars kept in circulation, but the receiver also avoids costly demurrage charges.

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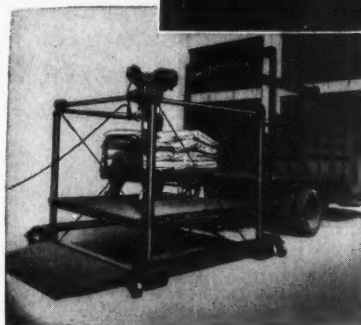
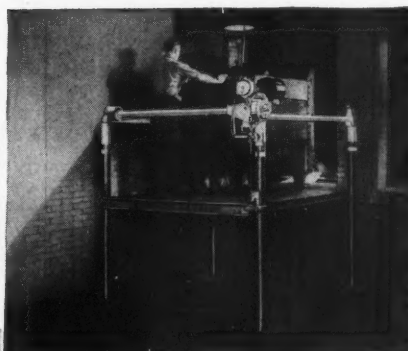
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loading and unloading
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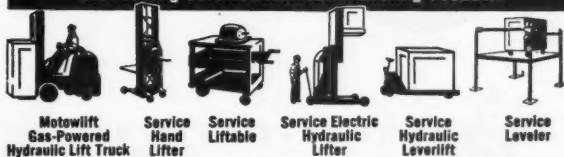
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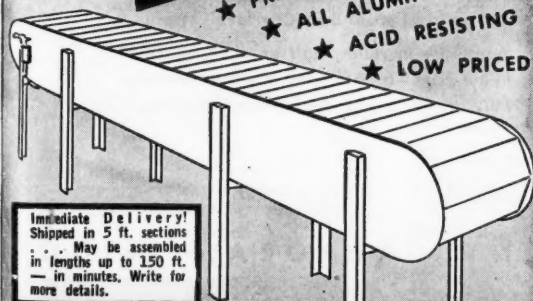
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JANUARY, 1948

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PORTABLE BELT AND FLIGHT CONVEYORS



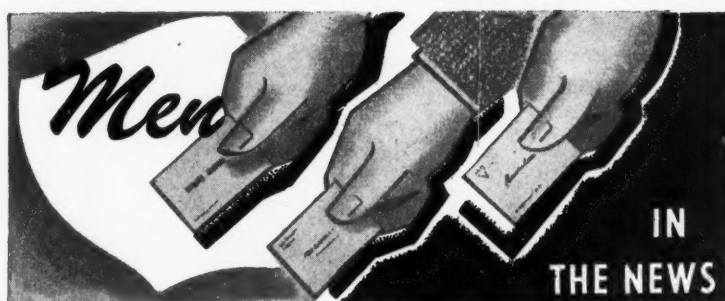
CAR UNLOADERS



SNOW LOADERS



COAL LOADERS



CALVERT CAREY, Greenwich, Conn., has been elected president and Fred Dunning, Stamford, Conn., has been elected executive vice president of The Yale & Towne Mfg. Co. Carey is the fifth president of the 79-year-old company, succeeding the late W. Gibson Carey, Jr., who died suddenly on October 4, as a result of a drowning accident in Florida.

In addition to being executive vice president, Dunning will continue to serve as secretary and treasurer of the corporation. Both Carey and Dunning have been serving as directors of the corporation for many years. Carey joined

Yale & Towne in March 1934, as assistant to the then vice president, Joseph A. Horne. He became di-



Calvert Carey



Fred Dunning

rector in December 1942, and was elected vice president in charge of manufacture when Mr. Horne was

elected chairman of the board, on January 1, 1943. He served in the Navy on a variety of assignments from 1914 to 1931, when he retired with the rank of lieutenant commander. He was recalled to active duty in 1932 for two more years. In 1922, Dunning joined Yale & Towne as chief accountant, and 10 years later he succeeded W. Gibson Carey, Jr., as treasurer. On January 1, 1939, he succeeded John Henry Towne as secretary, becoming secretary and treasurer of the company. In 1935, he had been elected a member of the board of directors.

GENERAL ELECTRIC CO. has announced the appointment of Frank T. Lewis as assistant manager of its Schenectady Works. He joined the company in 1916 and after two years, as an apprentice, left to attend Tufts College where he was graduated in 1922 with a degree in mechanical engineering. Lewis returned to GE that year and was engaged in experimental mechanical work at the West Lynn Works, followed by other positions. (Turn to page 129)

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ON-THE-SCENE REPORT

PACKING. Empty cartons arrive from fourth floor for manual packing on slightly tilted conveyor.



High-production Food Processing in a building . . .

FOUR STORIES HIGH-FORTY FEET WIDE

**GRAVITY ROLLER AND
WHEEL CONVEYORS,
STEEL STRAPPING**

Is your problem one of developing an integrated flow of materials on several floor levels in a narrow building? Here is how a meat packer engineered a handling system that moves thousands of units of cased material on four floors in a building 40 feet wide.

MOST concerns aren't in the enviable position of operating in a one-floor "million dollar" plant, where material handling devices were engineered to the layout and the product. Operations of this type are a small minority. Most companies have to "make do"

multi-story buildings that served for decades. Often, in such cases, the ambitious production schedule makes no allowance for building handicaps, leaving the production manager faced with the problem of adapting handling equipment to spaces that would be inadequate without the proper material handling facilities.

That's the kind of problem that calls for ingenuity, and it is one that has been solved successfully by B. I. L. Food Products, Inc., New York City. The company packs a meat product in 20-ounce cans, 24 tins to the case. The building occupied by B. I. L. is a four-story structure averaging 40 feet

in width. (Service rooms and stairwells reduce the width of operating areas on several floors.)

This description covers principally the handling of the finished product, after packing, when the cased material is delivered to intermediate storage, then shipping. A few details just ahead of the packing station are included.

On the fourth floor of the building (empty can storage) the tins are taken out of the cartons and routed over a gravity line to the sterilizer. A second operator removes the empty shipping containers from a stand and prints one side with a stencilling device. The units are disposed of through a chute

which leads to the third-floor packing department, along the east wall. The printed containers arrive on a 10-foot section of gravity roller conveyor, paralleling the angle iron chute on which the filled and labelled cans roll in rapid succession to the packing operator. The angle iron chute is at a level a few inches above the carton height, permitting the packer to drop the tins into the containers. Another factor facilitates the rapid loading of the cans by manual means. The 10-foot section of gravity roller line is slightly raised on one side and at one end (just ahead of the loading point). This arrangement tilts this part of the conveyor—and the case on it—toward the operator, giving him a full view of the interior of the cartons at all times. This positioning also helps avoid the possibility of error.

The packing operator, incidentally, handles the cans in units of four at a time, maintaining a remarkable rate of production. His daily average is several tens of thousands of tins per eight-hour day. The proper layout of the station and the positioning of the containers are important aids to this end.

Immediately beyond the packing station, the full cases pass onto a 90-degree curved section of gravity wheel conveyor. This is the start of the wheel conveyor system

that connects the third, second and ground floors. The arrangement of the conveyor sections which make up this system serves the steel strapping operation, labeling of cases, temporary storage, and finally loading of outbound vehicles on the ground floor.

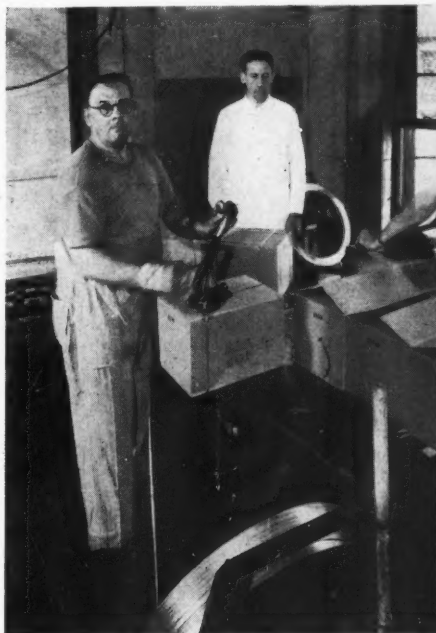
Ten feet west of the curved section—all moves are necessarily short* in the compact space—the cases arrive on a smooth steel plate 24" wide by 42" long. This is the strapping station where $\frac{1}{4}$ " steel banding is applied, two lengthwise and two crosswise straps on each case. The strapping is an export requirement and it also serves to prevent pilferage. In this case, the four-way application of the strapping obviates the necessity of prior gluing of the top flaps of the cartons.

There are two strapping operators, one on each side of the steel plate. As is shown in one of the photos, each operator is served by a coil on a portable stand. The tools which are used tension, seal and cut the strap in one operation. The magazine of each tool holds 100 seals.

Since the cases are strapped lengthwise and crosswise, they must be turned in the process from a longitudinal to a lateral direction. This is conveniently done by means of turntables, one on each

side of the steel plate, which are eight inches in diameter and raised somewhat less than $\frac{1}{8}$ inch above the top of the plate. These turntables assure effortless handling of the cases at this station, without lifting. For strapping purposes, the end or side of the container is pushed a trifle beyond the edge of the plate.

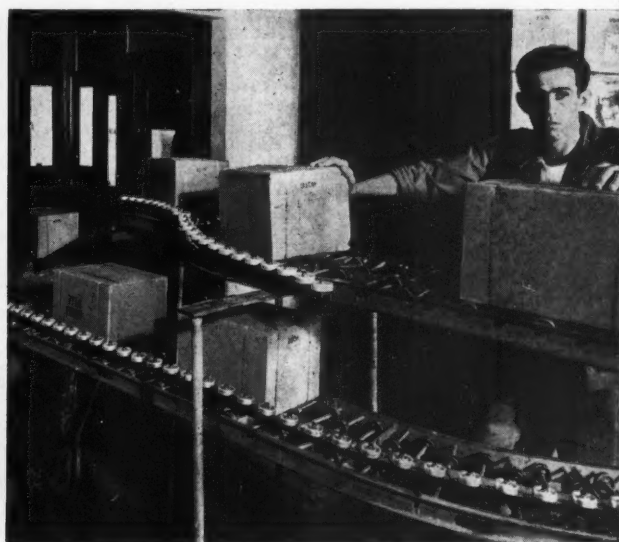
STRAPPING. Turntable on each side of plate, permits easy handling. Cases then enter chute, left.



STACKING. They are delivered for storage on second floor. Switch to outbound chute, at left.



SHIPPING. With gravity wheel sections connected, upper line moves cases to trucks, via chute, on ground floor. Strapped cases meantime arrive from third floor, lower line, for next truckload.

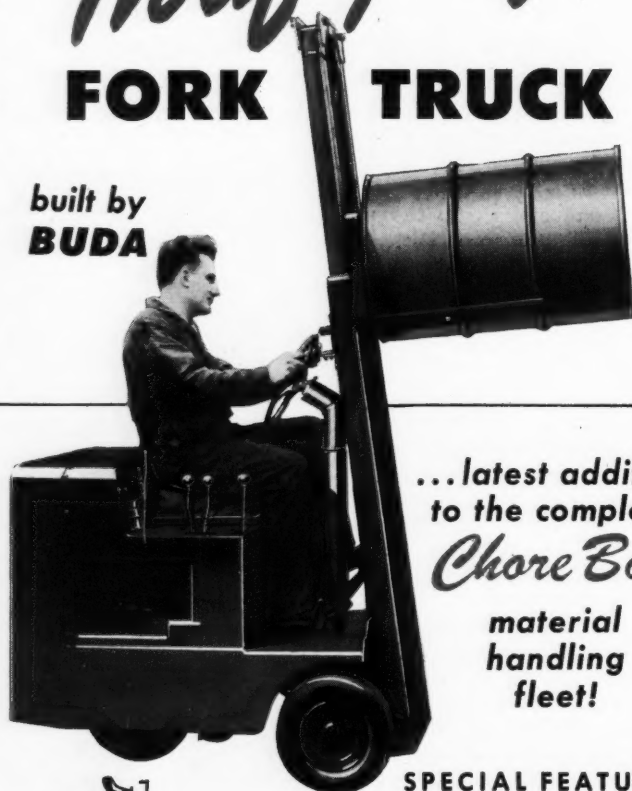


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BUDA

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A few feet beyond the strapping station the line makes another 90-degree turn and here the cases slide through a chute to the temporary storage area on the second floor.

On this floor, the cases arrive on a gravity wheel line that extends 30 feet into the room. The conveyor is made up, as on the other floor, of standard 10-foot sections. Skids with steel legs are set up on both sides of the line. A complete shipment is usually prepared on one side of the room at one time.

The curved conveyor section connected directly to the discharge end of the chute has ball bearing wheels mounted on the guard rail at the outside of the curve. The cases come down from the floor above with considerable momentum, and the wheels at one side prevent crushing of the containers and also serve to guide them.

The individual truck loads prepared on the skids averages between 12 to 15 tons. The cases are stacked and an operator applies labels in conformance with the requirements for export shipment.

The loading out is done from the same point, by means of another gravity wheel conveyor line which delivers to a chute directly adjacent to the first chute mentioned. For proper clearance, the outbound line is raised 16 inches above the inbound conveyor, with a roll-over switch adjoining the conveyor section that is connected to the chute opening. Depending on which side of the room is to be worked, standard sections of gravity wheel conveyor are set up accordingly on adjustable stands. The switch, equipped with coupling latches, is of course set in accordance with the required directional flow. Additional conveyor sections are added to the line as the operators "work back" into the room from the chute. Spare straight and curved sections are kept on hand to extend the conveyor as needed, here as well as in other departments of the four-story operation.

A slight push sends the cases on their way to the truck on the ground floor level. Meantime, cases arriving from the third-floor strapping station are handled from the lower conveyor line in the usual manner. Sent out from one side of the room, the incoming cases are

stacked and leveled on the other side for the next truck load.

On the ground floor, the conveyor line is extended (by use of portable sections) into the nose of the truck. As the loading progresses, individual sections are removed according to need.

This is how this meat packer designed a material flow in compact work areas, sometimes not over 20 feet wide, with thousands of cases traveling rapidly between work stations and from floor to floor. The same method is of course applicable to many other types of products shipped in similar containers.

MATERIAL HANDLING INSTITUTE CHAPTER ACTIVITIES

THE NORTHEASTERN OHIO Chapter has called off its January meeting in order to give all members full opportunity for attending the Second National Material Handling Exposition, January 12 to 16 inclusive. Representatives will be at the Material Handling Institute booth No. 102. Men living within a 100-mile radius of Cleveland are invited by President Earl F. Riter to ask about the Chapter's activities.

N. CALIFORNIA ASSOCIATION

RAY PERIN, of the Ira G. Perin Co., for 35 years the west coast representative for Elwell-Parker Trucks, has been elected president of the 14-year old Materials Handling Association of

Northern California.

Raymond J. Perin, age 38, is a graduate of Stanford University, class of 1930. He served with the Goodyear Rubber Co.'s British plant during the war. Upon his return he joined the Ira Perin company. He is a member of the American Society of Mechanical Engineers.



Going on a TRIP?

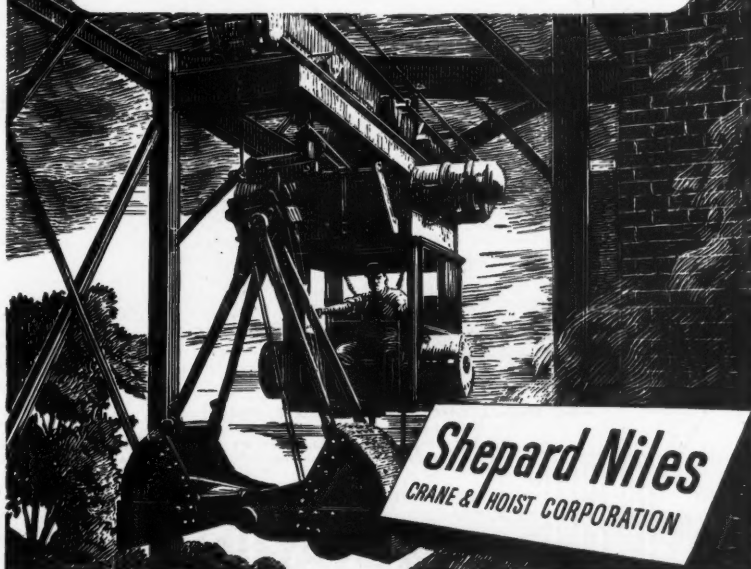


By motoring standards a trip of less than 100 feet is ridiculous, yet one such trip involving the moving of heavy materials around your plant by human muscle can easily cost more than a coast-to-coast automobile tour.

When material-moving costs must be kept down, when speed is important, when safety is concerned and when day-in, day-out, trouble free operation is required — the answer is a Shepard Niles monorail hoist. And the recommendation of a trained, experienced Shepard Niles engineer is invaluable in helping you get the electric hoist best suited to your needs.

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**UNITIZING GLUER
ELIMINATES DAMAGE OF FRAGILE
GOODS IN SHIPMENT!**

HERE'S HOW IT WORKS



The CROWE Gluer attaches to the end of your conveyor, receives the carton, and applies the glue. It's fast—it's easy. Packages in transit are secured firmly by slight adhesion—can't shake loose—arrive in perfect condition.

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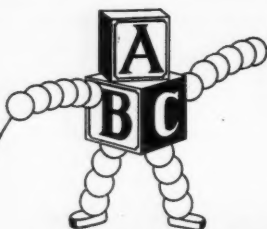
In addition to giving you the satisfaction of *knowing* that your shipments reach their destination 100% intact, the CROWE Gluer saves a sizable sum each year in damage claims. Destructible packages, bottles, etc., are fully protected.



Photo shows the CROWE UNITIZING GLUER loading cartons in car as fast as they come down conveyor. Machine is adjustable to conveyor height and ruggedly built for long service. Cartons are quickly removed without damage—no tearing or sticking.

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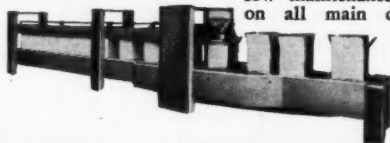


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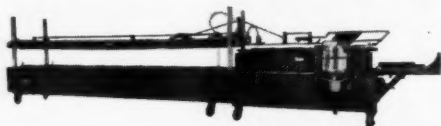
Case sealing operations can be done faster — more economically with an A-B-C machine. Features of A-B-C machines include simple, sturdy construction for minimum down time — low maintenance cost; ball bearings on all main drives; geared head

motors. A-B-C specializes in building packaging machinery exclusively. Take the "hand" out of handling. Let an A-B-C specialist help solve your case sealing problems. For details write A-B-C PACKAGING MACHINE CORP., Dept. R-2, Quincy, Ill.

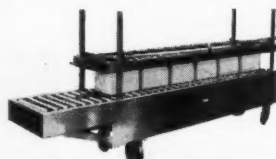
A-B-C AUTOMATIC TOP & BOTTOM CASE SEALER — Automatically glues, folds and seals either or both top and bottom flaps of cases in one operation.



A-B-C AUTOMATIC SIDE SEALER — Automatically glues, folds and seals either or both ends of cases too long and narrow to be accommodated in an upright position.



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A-B-C HAND GLUER
A motor-driven compression unit for the setting of hand glued cases. Automatic starting and stopping switch. Easily portable.

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PACKAGING MACHINE CORP.

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PACKAGING MECHANICS

Varied Automotive Parts

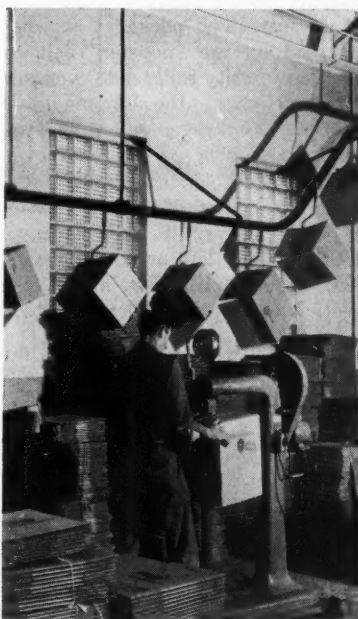
25 per cent more production . . . in 40 per cent less space

THE task of packing, sealing, identifying and routing 1400 cartons a day averaging 70 pounds each is no small one. The job can become a problem when, as in this case, the containers consist of 14 separate types and sizes, into which thousands of varied combinations of parts must be packed. This was the problem faced by the Bendix-Westinghouse Automotive Air Brake Co., Elyria, O. By the combination of good material handling and packaging techniques a system was devised that resulted in a progressive flow without bottle-necks.

Here's an idea of the complexity of the operation. Bendix-Westinghouse manufactures air brakes and other air-controlled automotive equipment for trucks, tractors, trailers, busses and many off-the-road vehicles. These variations in original equipment (which must conform to the specifications of the different manufacturers and distributors supplied) are increased by the service parts which are also handled in this packaging line.

The accompanying flow sheet shows the orderliness of the overall procedure. The operator stitching the carton bottoms has within his immediate work area a supply of the 14 different carton flats required. He disposes of the bottom-stitched containers by hanging them on the overhead chain conveyor which supplies the packers.

The pedal-controlled stitching machine has a 20-inch throat. It drives staples .103 wide and .020 thick. The equipment is caster-



CARTONS are bottom-stitched, hung on overhead conveyor, which delivers them to the packers.

mounted for portability within the limited work area. The cartons range in size from 6" x 6" x 3" to 22" x 22" x 13". The stitching machine operator is responsible for keeping the proper combination of sizes on the overhead carton supply line. He is kept informed of

the production being scheduled and governs his activities accordingly.

As can be seen from the flow sheet, the overhead conveyor circles the empty containers past the six packing stations in the layout, keeping a constant supply within reach of the operators. The stock is delivered either in large skids load lots or in small tote pans stacked on skids. The work table for each packer is a 20-foot gravity roller conveyor, which discharges to a live roller conveyor running at right angles to the spurs.

After the proper material has been placed in a carton (according to the order sheet), the packer supplies two lengths of round wire steel strapping. With an average weight of 70 pounds per carton, it was found that 15-gauge strapping adequately secured the packages. A steel strapping container reel is mounted adjacent to each packer. A top stitching machine is under consideration for this operation as shown on the flow sheet.

In addition to the six packing tables, there is one extra line which is used for spot packaging of special or unusual orders. This arrangement prevents interference with the flow of the volume items shipped, at the same time expediting the routing of "specials" through the layout.

At the end point of each gravity roller packing table there is an automatic stop, which retains the units on the line until packages for an order have been completed and assembled. This done, an op-

PACKAGING MECHANICS

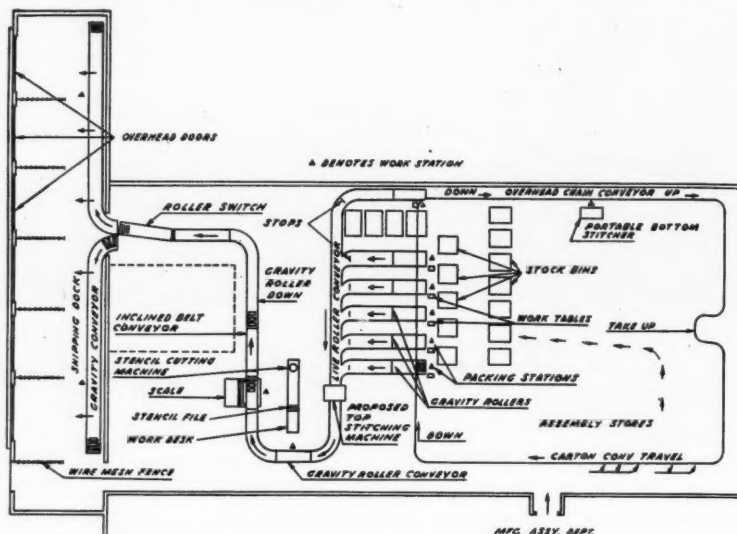
erator releases the stop, allowing the packages to roll ahead to the live roller conveyor for delivery to the marking and weighing operations. To avoid the possibility of mixing orders, one lot is released at a time. Stencils are used for marking the consignee's name and order number on the containers.

A 1/2" inch stencil machine is located at this station for cutting new stencils. This operation is held to a minimum because all cut stencil boards are filed alphabetically and are reused as often as practicable. Ink is applied by means of a specially constructed brush.

All packages advancing over the U-shaped conveyor are stopped just ahead of the scale indicated in the layout drawing. The scale platform is a section of roller conveyor, which makes any lifting unnecessary at the point. (A counter-balance is set to compensate for the gravity rollers mounted on the scale platform.) The weighing operation is also speeded by an "illuminated spot" indicating device with a magnifying glass window. A light automatically illuminates the dial when a package is transferred to the scale platform. The combination of the light and the magnifying glass eliminates squinting on the part of the operators, as well as the possibility of misreading. The weight

As can be seen from the flow sheet, a motorized belt conveyor is just beyond the scale. This elevates

the shipping floor. Thus this roller line serves as a switch connecting to either of the conveyor lines ex-



LAYOUT shows progressive material flow beginning with setting up of carton flats and following through all operations to shipping.

the package from a two-foot to a six-foot height in a travel distance of 10 feet. The packages are discharged by the "booster" belt to another gravity roller conveyor run which delivers to the shipping dock.

A novel arrangement is used at the point where the conveyor reaches the dock. Since this point is in the center of the dock, it is necessary to route the packages either to the left or to the right. This is accomplished by means of a section of gravity roller conveyor

tending the full length of the shipping dock on both sides. A slight push is sufficient to set the switch as desired.

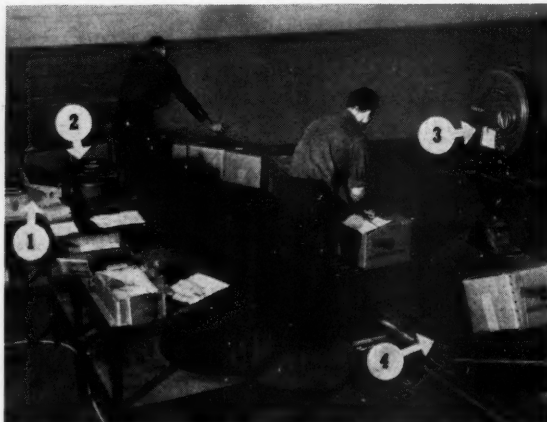
The containers are removed from the shipping dock conveyor and placed into the locations indicated by carrier and destination. In the past, it was customary to deliver the packages to the shipping dock at random, which resulted in an additional sorting operation. (All are shipped via motor truck.) To eliminate the problem of order mix-

PACKING STATION. Operators have cartons, stock, and steel strapping equipment close at hand.



and the box number of the order are marked by the operator before releasing the units.

MARKING-WEIGHING STATION. 1. Stencil board file. 2. Stencil machine. 3. Scale with spot indicator. 4. Belt booster conveyor.



that is hinged at the plant end, and mounted on two casters running in channel track on the end nearest

ing, Bendix-Westinghouse plant engineers devised a control system employing the use of wire fences.

Dock areas adjacent to each truck loading station were enclosed by which are assigned to specific truck lines.

PACKAGING MECHANICS



ENCLOSED SHIPPING DOCK, showing cases arriving from "switch". Note the spot lights (top of photo) which throw light beam into trucks.

means of these five-foot wire fences, and all outbound shipments are placed within these enclosures

This control feature has not only eliminated resorting but has also speeded the truck loading opera-

tion. From the fenced-in areas, the shipping containers are delivered to the motor carrier by use of two-wheel aluminum hand trucks.

The carefully engineered layout and material handling procedures, originated by Bendix-Westinghouse engineers, have resulted in several operating improvements. The number of square feet originally required for the same operation was reduced from 9100 to 5800. Another distinct gain has been more effective utilization of manhours plus the ability to handle increased production in the smaller area. The advantages achieved in the shipping department, already described, are a vital part of the overall plant improvements currently under way.

SHIPPING GUIDEBOOK

The latest edition of the "Handy Helper," a guidebook for shipping rooms, has been published by Dia-



Box covers are not nailed. Two steel straps hold them securely. Quick, easy operation of machines keep conveyor lines moving.



Loaded wooden cases palletized for easy handling.

Gerrard Steel Strapping...

faster, safer, less expensive!

FASTER With Gerrard Steel Strapping, you don't have to bother with seals or crimping... all Gerrard machines tension, tie and cut the strapping.

SAFER Every package is rigidly bound, preventing torsional sway and making it pilfer-proof.

LESS EXPENSIVE Speed and ease of operation, and lower cost per lineal foot cut packaging cost.

Gerrard Round Steel Straps come in a wide range of gauges and can be used to bind light parcel post and express packages or carload shipments of steel pipe and plate. The services of Gerrard engineers are available without cost to help you solve your packaging problems. Write for our free books, *Blue Book of Packaging* and *Red Book of Carload Stowage*.

Gerrard Steel Strapping Company

2939 West 47th Street, Chicago

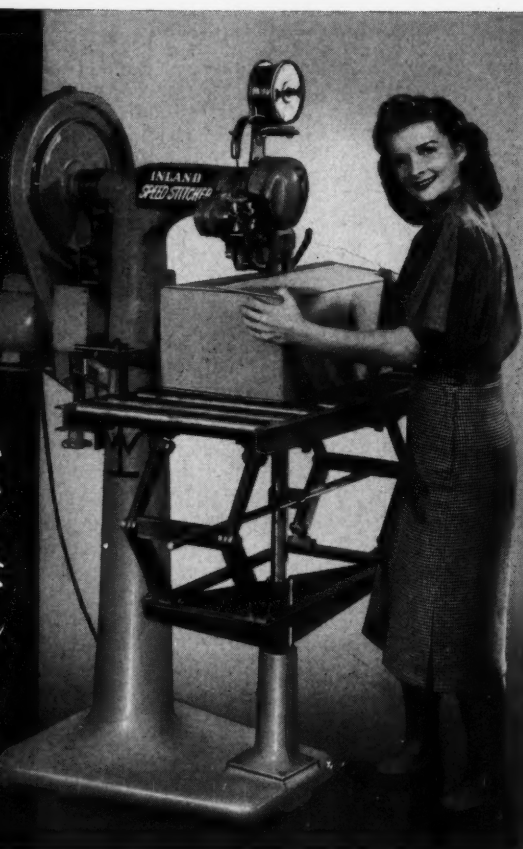
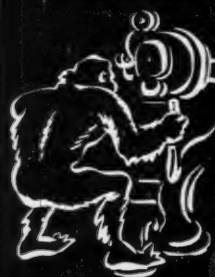
(Formerly The Gerrard Company, Inc.)

UNITED STATES STEEL



**Built
for a
Girl**

**NOT A
GORILLA**



New Automatic Double-Duty INLAND SPEED-STITCHER Relieves Operator Fatigue 2 Ways!

Your stitching machine operators no longer need arm and leg muscles like a lady wrestler to run the New Inland! Here's why:

1. **Starts and stops itself.** We've banished the foot lever—Number 1 cause of operator fatigue. The carton starts and stops the stapling, *automatically*, as it's fed through.
2. **Holds and carries the carton.** We've added the new Inland Speed-Flo-Stitcher-Shoe and Universal Conveyor, banishing "carton wrestling,"—Number 2 cause of fatigue. Now the daintiest miss can maintain day-long, man-size production.

NEW! Alternate Top and Bottom Seam Stitching
The new Inland Speed-Flo Shoe stitches both tops and bottoms of cartons, alternately or continuously, without adjustment or change! It's the *first double-duty* stitcher. Operates as individual unit, or part of continuous conveyor line.

Just THREE of FORTY-TWO Advanced Features
Get tomorrow's features today, plus Speed-Stitching for greater production and economy. Available in standard straight-arm, bottomer, and regular combination models—or for special applications.

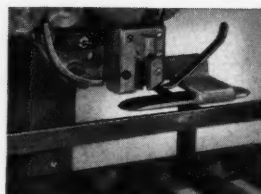
Write us today for pictures and "Buying Guide." We guarantee to fulfill delivery promises.

INLAND

WIRE PRODUCTS CO.

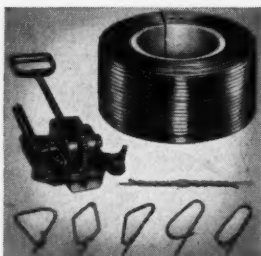
3947 S. Lowe Ave. • Chicago 9, Illinois

See the SPEED-STITCHER—Booth 706—Material Handling Expo., Cleveland, Jan. 12 to 16



Here's Speed Stitching!

One set-up—seam stitches bottoms of empty cartons, then seam stitches top of same carton when filled, without change. Starts and stops stapling itself, through Electric Solenoid built into conveyor. Operator merely guides cartons through!



New! Inland SPEED-FLO Wire

Inland's new controlled "Uni-Draw" process creates smoother, more uniform size and finish for faster operation. Try it!

Improved "T" Model Wire Tying machine now available, and full line of Inland Tag Fasteners.

graph-Bradley Industries, Inc. Included are correct export packaging procedure, rules and regulations on marking for both export and domestic markets and other needs to help the shipping department to operate efficiently. Included also are descriptions of a complete line of stencil machines and stenciling equipment manufactured by Diagraph-Bradley, as well as the Stikfast Label Gummers and a large assortment of miscellaneous shipping room equipment.

CUSHIONED CONTAINERS IN ROLLS

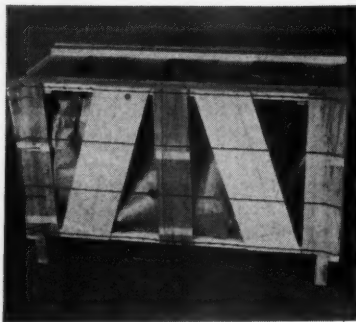
Cushioned shipping container material in continuous rolls, Corroflex Tube-Tainer, is now offered by Sherman Paper Products Corp. The material both cushions and covers and is



said to provide a wide range of container sizes in a single roll. The length wanted is cut off the stock roll and the product slid in the tube, which is then taped, stapled or tied. The material has been tried successfully with a wide range of hard and soft goods. The accompanying photo shows the material being used in packing skis.

CRATE FOR ENGINE BLOCK

THE problem was to construct a shipping container for a six-cylinder engine block. Requirements were for a light-weight, heavy-duty crate

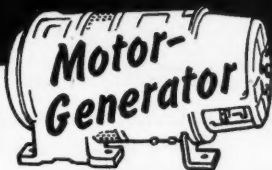


that could be quickly assembled. The new design should also have provisions for handling with automatic equipment.

The solution is shown here. It is a wirebound crate on a skid type base. The wirebound construction gives light weight and strength. The construction provides quick, easy assembly while the skid type base enables material handling equipment to transport the unit with ease.—Courtesy, General Box Co.

FOR PEAK PERFORMANCE FROM YOUR ELECTRIC TRUCKS

SPECIFY a Hertner



Battery Charger

No matter how adequate your electric trucks may be, PEAK performance depends upon fully charged batteries. Your charging equipment is fully as important as your truck and battery equipment. *For the best in charging equipment, insist upon Hertner.*

Here's what HERTNER CHARGERS GIVE YOU:

Completely enclosed control panels prevent possibility of accidental contact by operator.

Motor-generator sets specifically designed for the battery to be charged.

Completely automatic operation from start to completion of charge.

Long life and trouble-free operation.

Both types of Hertner chargers are available in single-circuit units for charging one battery, and in multiple-circuit units for charging two or more batteries simultaneously. Your electric truck representative will gladly help you select the Hertner charger that meets your requirements and which will keep your trucks operating at PEAK performance.

**See our display, Booth 506
Materials Handling Show,
Cleveland, Ohio**

FOR MOTORIZED HAND-LIFT-TRUCK BATTERIES TYPE "H" CHARGERS



← Single circuit Model H Write for Bulletin 101

Multiple circuit Model H Write for Bulletin 102

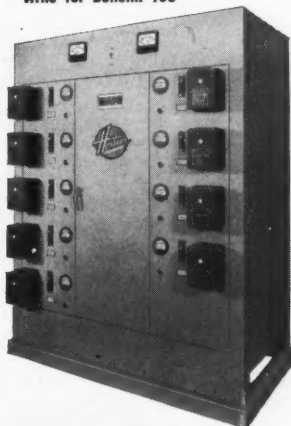


FOR ELECTRIC INDUSTRIAL TRUCK BATTERIES TYPE "K" CHARGERS

Single circuit Model K Write for Bulletin 104



Multiple circuit Model K Write for Bulletin 108



THE

HERTNER

ELECTRIC COMPANY

A General Precision Equipment Corporation Subsidiary
MOTORS • MOTOR GENERATORS • GENERATOR SETS

12756 ELMWOOD AVENUE

CLEVELAND 11, OHIO

JANUARY, 1948

95

multiplying manpower four times....

Yes—you get four times the results with this latest Hydro-Lechic truck (in pallet and platform models) . . . engineered and built by the Stuebing, pioneers in Lift Trucks since 1910. Get new maneuverability and dependability . . . trouble-free service, even on 24 hour duty.

New exclusive Stuebing features include power hydraulic lift . . . two speeds forward and reverse . . . dynamic brake . . . fingertip control . . . sealed gear transmission . . . are described and illustrated in a new bulletin. Write for your copy today.



See the Hydroelectric "K" and other outstanding Stuebing Lift Trucks at the 2nd Materials Handling Exposition, January 12-16, Booth 212-213, Cleveland.



**LIFT TRUCKS
INCORPORATED**

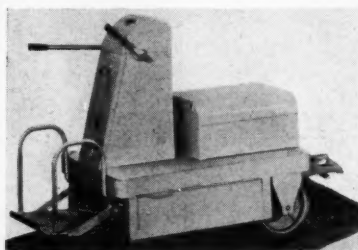
2425 Spring Grove Ave., Cincinnati 14, Ohio



For additional information on these products, write Dept. 5, Flow Magazine, 1240 Ontario St., Cleveland 13.

TOW UNIT

NP179—A new lightweight electric tow unit has been placed on the market by Rocky Mountain Steel Products, Inc. The Electric Pony Express Orange Tow Unit, as it is



designated, has a turning radius of 72". It is capable of hauling 10,000 pounds of trailer loads, the manufacturer states. Its low weight permits use in elevators, lofts and warehouses. The operator can face in either direction. Additional features and specifications: wheel base, 30"; overall dimension, including hitch, 75"; equipped with either a 24-volt or a 32-volt battery, depending on the speed desired and the draw bar pull required; a speed of six miles per hour can be attained with the 24-volt battery and eight and one-half miles per hour with the 32-volt battery.

MOTORIZED WHEELBARROW

NP180—A motorized wheelbarrow and dumptruck, the Power Buggy, for hauling wet concrete, dirt, bricks, grain, ore, castings, tools or refuse, has been announced by Whiteman Mfg. Co. The six hp. unit can haul 2000 pounds or 12 cubic feet at speeds from two to 15 mph, forward or reverse; goes up a 25-degree ramp with a load; turns in its own radius; goes through doors and narrow passages and is fitted with a hitch for light tractor

use, according to the manufacturer. The Power Buggy with single wheels is 25 inches wide, with dual



wheels is 36" wide. Tires are standard wheelbarrow tires. Power is provided by a six hp., four-cycle, air-cooled gasoline engine with an automatic clutch and variable speed changer through worm gear reducer. It weighs 750 pounds. The bucket height of 34 inches enables it to load at most concrete mixers without pit or platform.

DRUM CARRIER

NP181—A new Falstrom Drum-Karrier has been designed for use wherever drums are handled in the plant, on loading platforms or in outside yard operations. The manu-

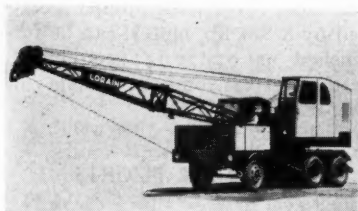


FLOW

facturer claims it can be used on any monorail hoist, crane or chain fall. The new accessory can be operated by one man and fits all standard size drums. To use, the Drum-Karrier is simply hooked on to a hoist, moved to position, cinched around drum, and transported where needed. Tilt locks hold drum in vertical position and permit easy, controlled tilting to mix or dispense contents over receiving tank.

CRANE DUAL CONTROL

NP182—Dual control, combining the between-jobs mobility of the Moto-Crane and on-the-job advantages of self-propelled units, has been announced by the Thew Shovel Co. Dual control may be installed on any Lorain Model TL-20 mounted on a standard 4 x 4, 6 x 4, or 6 x 6 rubber-tired Moto-Crane carrier which utilizes the carrier engine and automotive propelling and steering mechanism for traveling to the job. At the scene, the machine can be converted into

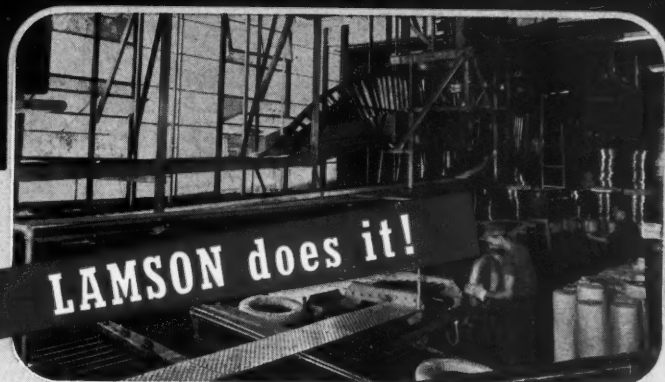


a self-propelled unit within five minutes with on-the-job travel (1 to 7 miles per hour) powered by the turntable engine only, the manufacturer states. All steering and brake controls are located at the operator's position in the turntable cab. Steering is controlled by air power. Dual control is offered as an extra feature of Lorain TL-20 Moto-Crane and is manufactured for those applications where localized mobility and one-man operation on the job, combined with high speed travel between jobs, is desired.

HYDRAULIC LIFT TRUCK

NP183—A new 3000-pound capacity High Lift Truck with four-wheel suspension, auto steer and towing eye has been added to the LYON-Raymond Corp.'s line of hydraulic high lift trucks, originally

"Conveyor System Saves \$24,000 in first year!"



"Increases output in packaging dept. of large plant by 400% per man-hour!"

These statements were made by Mr. C. Lee Dryden, Chief Plant Engineer of the Signode Steel Strapping Company in Chicago... when he told about the solution of his serious materials handling problem.

THE PROBLEM

"Two slitter lines with a monthly production of 9,000,000 pounds of steel strapping were being bottle-necked. The shipping room had to be moved to another building over a block away in order to free plant area for a sudden increase in production schedules.

"This change added thousands of feet of trucking to an already overcrowded fleet of power trucks. And to complicate the problem, there was a transfer point where pallets had to be raised to a higher floor level through a hole in the wall of the second building."

Lamson Conveyor System Solves the Problem

"Two Lamson overhead conveyors now move coils from the distant slitter lines to the packaging department. At this point the coils are automatically transferred to two roller conveyor lines.

"Upender sends coils to whichever wrapping machine is ready for them. Stacking of coils on shipping pallets is completely automatic. Platform tilts when it reaches conveyor level, sends stack on its way down the rollers.

"Entire operation is rapid, compact and self-regulating for even, steady flow. In the first year, the Lamson Conveyor System saved plant \$24,000. The initial investment was returned during the first ten months of operation."

LAMSON CAN SAVE *You* MONEY

Let us know if you have a materials handling problem. Our nearest engineers will be glad to make an analysis and submit recommendations. Write today.

LAMSON CORPORATION

1300 Lamson St.

Syracuse 1, N. Y.

Just a few minutes a day . . .



AT *Daisy* MANUFACTURING COMPANY **ROSS LIFT TRUCK DOES DOUBLE DUTY**

Here's a job that's typical of the many ways ROSS adaptability pays off for owners.

Daisy Mfg. Co., makers of the world's most famous air-rifle, use a standard ROSS lift truck equipped with 2 cu. yd. ROSS scoop to feed coal from stockpiles to boiler room bunkers. This machine enables one man to handle as much coal in a few minutes as two or more men and an ordinary truck formerly did in several hours. The lift truck carries approximately 3600 pounds of coal per trip — and makes a 200 yard round trip in five minutes or less.

And when this job is done, the operator makes a quick switch to standard forks. Then this same lift truck goes back to its regular work — handling the sheet steel, bar stock and other items that go into the manufacture of air rifles.

You too will find that ROSS Pneumatic Tired LIFT TRUCKS (sure-footed on rough ground, snow or mud) quickly pay for themselves on an endless variety of work. Get all the facts about these versatile machines — capacities, 6,000 to 18,000 pounds.

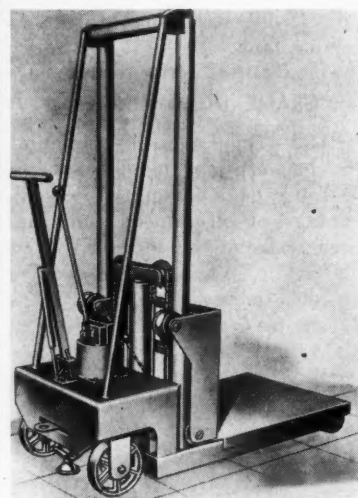


THE ROSS CARRIER CO.

280 MILLER STREET, BENTON HARBOR, MICHIGAN, U. S. A.

Direct Factory Branches and Distributors Throughout the World

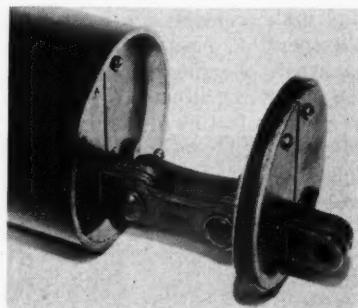
built only in 1000 and 2000-pound capacities. The fork type tubular frame provides a 30" x 36" load platform, which is supported by concave rollers fitted to the tubular uprights. A floor lock brake is included as standard equipment. Power is furnished by two speed hydraulic hand pump which is mounted on the truck frame. A



motorized hydraulic pump, operated by a 3/4 hp. motor, can be furnished as optional equipment. Other extras offered include die separator and winch.

CIRCULAR FLIGHTS

NP184—Hapman Conveyors, Inc., presents its new standard all round synthetic rubber flights mounted on sealed pin chains. The manufacturer claims the equipment will convey a wide variety of materials



through a 3", 4", 6", 8", 10" pipe or semi-circular trough sections. Having a circular cross section this flight wipes pipe or trough clean. The flight design has been found useful in diversified fields such as coal, welding flux, cement, sugar,

FLOW

PALLETS

**MADE TO YOUR
MOST EXACTING
SPECIFICATIONS!**

From Air Dried Hardwoods

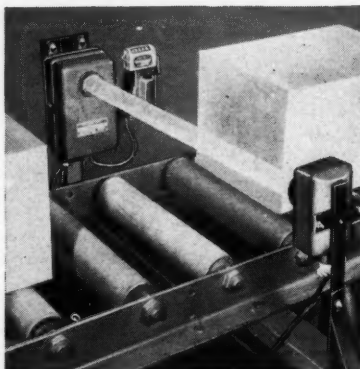
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BOX PALLETS
BULKHEADS
CRATES**

Write and tell us your particular needs. We can give you what you want. Let us make recommendations. No obligation, of course.

25 Years Experience

**BIGELOW-GARVEY
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Count Production Photo-Electrically!

THE PRODUCTIMETER LINE

offers a compact unit for remote control operation . . . a ruggedly constructed electric counter that may be placed at any desired location . . . and a specially designed moisture-proof photo-electric control and light beam. Each object interrupting the light beam is registered on the counter.

For more effective materials handling, write us about your counting problem.

Catalog 16 available on request.

DURANT MFG. COMPANY

1944 N. Buffum St. 144 Orange St.
Milwaukee 1, Wis. Providence 3, R. I.

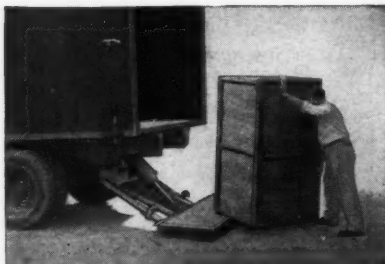
America. The new streamlined stringer is similar in design to a street curbing, with the rounded surface of the curb toward the inside to prevent scuffing, wear and damage to rubber tires. It is especially desirable when the dock-board is used for power equipment traffic as the stringers are of sufficient height and strength for safety, yet low enough to provide clearance for trucks, the manufacturer states.

BARREL DRAIN STAND

NP187—Industrial Products Co. has announced a new Drain Stand for handling all sizes of drums and barrels. It allows one man to tilt a drum from a vertical position on the floor to a horizontal elevated level for draining and positions. The angle iron construction is electrically welded. Two wheels and two swivel casters are provided for moving to any location.

40 FOOT CRANE TRUCK

NP188—The Yale & Towne Mfg. Co., Philadelphia Division, announces a new crane truck with a full 40-foot reach, designed for use



PLACING LOAD ON GATE



GATE LIFTS LOAD



IN OR OUT OF TRUCK—EASILY

Cut "Delivery" Time and Costs with Anthony LIFT GATE

Here is a rugged, proved piece of truck equipment that unquestionably cuts delivery costs, earning additional profit from your truck. It will improve your service to old customers, help you get new customers, and assist you materially to "beat your competition".

With an Anthony "Lift Gate" to load and unload your trucks you get these many profitable advantages:

- A "Lift Gate" is like an extra helper.
- The "Lift Gate" is like free cargo insurance.
- The "Lift Gate" improves customer relations.
- The "Lift Gate" is "free advertising."
- The "Lift Gate" is a safeguard against personnel accidents.
- The "Lift Gate" makes more deliveries per day possible.
- The "Lift Gate" is worth many times more than it costs.

The "Lift Gate" eliminates the necessity of having your drivers be "weight lifters" and "jugglers".

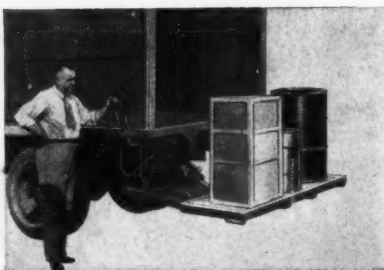
Anthony Hydraulic "Lift Gates" are being used by hundreds of businesses and industries to modernize delivery services. They save a tremendous amount of time, money and

hard work. The cost is surprisingly low. Many present users report savings that more than pay for their "Lift Gate" every few months. Let us send you complete information. Available for immediate installation.

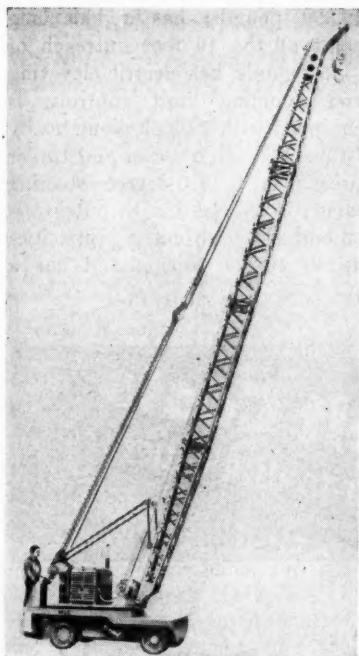
ANTHONY CO.

Dept. L-7

Streator, Ill.



in the construction and maintenance of high buildings, lifting ma-



terial into and out of excavations, loading and unloading ships and

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Pallet Sales Corporation is proud to present the first practical manual on palletization. Based on the broad experience of our staff engineers, a wealth of information on design, construction and application has been assembled for ready reference by present and prospective purchasers of pallets.

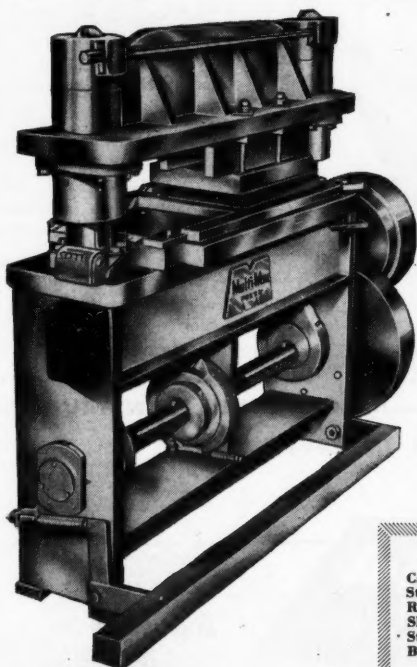


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We Serve The Nation



The Multi-Max is of all steel plate welded construction, normalised after welding to relieve all stresses. It is the most versatile press ever built, and is an economical investment for the small shop as well as for long production runs. Write for complete information and prices.

MOVE A NEW MULTI-MAX PRESS INTO THE PRODUCTION LINE and eliminate your material handling problem

The Multi-Max is an amazing tool, unlike any press you've ever seen. For years, manufacturers of stoves, refrigerators and major appliances have been begging for just such a machine as this. The Multi-Max is not just another punch press; it combines a large bed area in a small, compact frame. It needs no special foundation, has no overhanging parts and requires very little floor space (36" x 75"). Because of its small size it may be picked up and moved in and out of the production line as needed. Parts may be fabricated right at the point of assembly, or this new press may be moved to the receiving room where materials are unloaded, thus saving extra handling of material and parts.

This "plug-in" advantage puts the Multi-Max in a class by itself. It may be taken to the work rather than depending upon the work being brought to it. In addition, the Multi-Max performs a wide range of operations. It shears, blanks, notches, punches, perforates, slots, pierces, lances, bends and forms sheet metal parts in sizes up to 18" x 30". Two presses have been successfully used in tandem, solenoid controlled, to accommodate a larger sheet and to release extra manpower and larger machines for heavier work.

SPECIFICATIONS

Capacity.....	30 tons	Ram—Die Space.....	10" x 36"
Stroke (mechanical).....	2"	Bed Opening.....	5" x 32"
Ram Adjustment.....	2"	Motor Furnished.....	1½ HP. 3 phase
Shut Height (Stroke down, adj. up).....	10"	Height of bed from floor.....	32"
Strokes per minute.....	100	Overall Height.....	57"
Bed Die Space.....	12" x 36"	Floor Space Required.....	36" x 75"
Shipping Weight (Approx.).....3250 lbs.			

PARKER MANUFACTURING COMPANY

Makers of Parker 10 and 14 gauge power squaring shears.

2200 COLORADO AVENUE

SANTA MONICA 9, CALIF.

PERFECT PERFORMANCE



**FASTER
TACKLING
LESS
EFFORT!**

FASTER . . .

for shipping room work: assembling and sealing cartons, closing bags, lining boxes, labeling, etc.

FASTER . . .

because it drives tacks as fast as you can squeeze handle, holds scores of tacks at one loading.

FASTER . . .

because of its simplicity. One-handed, leaving other hand free to hold work. Pocket-sized. 36 models; 81 tack and staple styles.

POLYMER



A. L. HANSEN MFG. CO.

5010 HAVENSWOOD AVE. CHICAGO 40, ILL.

Sterling Pallets

**LIVE UP TO
THEIR NAME**

1. Seasoned Hardwood

Long life
Low maintenance cost
Relatively light weight

2. Uniform Quality

Made in our own plant
under close supervision

Our big volume of repeat orders tells the story. Call Pallet Division.

Sterling

Lumber and Supply Co.

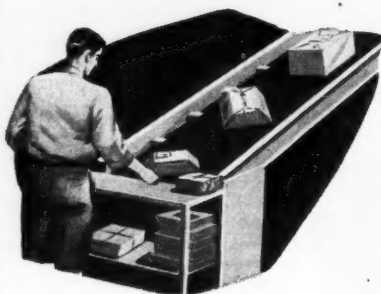
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Chicago 28
Phone PULman 0221

rail cars, maintenance and construction of railways, and odd hoisting and transportation jobs in yards, depots, and out-of-doors storage areas. The 40-foot boom is constructed in 10-foot sections. The center sections can be removed to provide 20-foot or 30-foot booms when longer lengths are not needed. The capacities of the boom at full length are: 4500 pounds at a seven-foot outreach, 3620 pounds at nine feet, and 2000 pounds at 19

feet. At its shortest length, the boom has a capacity of 10,000 pounds. The crane truck weighs 19,880 pounds; has a balancing point at the 19 foot outreach of 3125 pounds; has electric elevating and booming limit controls; is equipped with 22-inch diameter by 10 inches wide traction and trailer tires; has a 270-degree steering range; is equipped with outriggers on both sides for hoisting capacities up to 10,000 pounds and has a

Lower Belt Costs THROUGH OUR DIRECT-TO-USER POLICY

**Since 1909 Imperial's Highest Quality Belting
Has Saved Users Thousands of Dollars**



All shipments of Imperial Belting are made from our Chicago factory direct to your plant. This enables you to draw on one of the largest belting stocks in the entire country. And all Imperial men are direct factory representatives. You get the personal attention and recommendations of factory-trained sales engineers whose entire interest is on belting. Call on us for service and you will get it.

May we send you additional information and prices? Prompt shipment on conveyor and elevator belting.

**FINEST WOVEN DUCK — INNER-LOCKED CONSTRUCTION
SPECIAL IMPREGNATION**



**Engineered
Belting...**

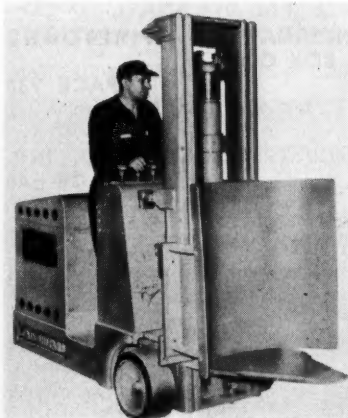
The right belt for each job.

IMPERIAL BELTING CO. • 1754 S. Kilbourn Ave. • Chicago 23, Ill.

lazy arm boom-stop to prevent loads from swinging past the pivot point of the boom.

NON-ROTATING ATTACHMENT

NP190—A non-rotating Paper Roll Attachment for the Lewis-Shepard



line of electric, gasoline, and gas-electric power fork trucks has recently been placed on the market. The attachment consists of a special ground and polished toeplate enabling it to enter under headings

SKID PLATFORMS



Steel bound with decks of carefully selected seasoned Oak. Bolted or welded construction. Removable decks (simply remove bolts and replace boards). Designed to fit your job with a wide range of sizes and capacities.

QUICK DELIVERIES

Send for Bulletin No. 6



Plant—Bedford, Va.



JANUARY, 1948

of large rolls of paper without damaging them as well as a curved backplate designed to fit the contour of the roll of paper. It picks up and deposits rolls of paper standing in a vertical position and when the mast is tilted backward the roll of paper nestles into the backplate and is held securely when being transported. It is made in capacities up to and including 3000 pounds.

ELECTRIC HOIST

NP191—The Ford Chain Block

Division of American Chain & Cable Co., Inc. has announced a new line of electric hoists, named Whippet. The hoist has been designed for capacities of 250 pounds to 2000 pounds. They can be furnished with trolleys, either parallel or cross mounted, hook suspension, rigid or bolt suspension. The standard lift is 12 feet.

WINNERS in the FLOW Cost Reduction Contest will be notified by telegram. See page 79.

Flexibility plus!



Flexibility . . . in and around, up and down . . . speeds from 1 inch to 60 ft. per minute . . . unit loads up to 250 lbs. Simplicity . . . a steel, tube-like track through which travels a specially constructed chain "just like water through a pipe." Those are two big reasons why Richards-Wilcox ZIG-ZAG Continuous Power Conveyors mean maximum efficiency at lowest cost for production lines.

Get the facts—learn how ZIG-ZAG can cut your production costs. Call or write for free catalog A-83.

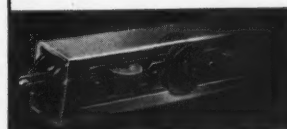
1880 • Over 68 Years • 1948

Richards-Wilcox Mfg. Co.

"A HANGER FOR ANY DOOR THAT SLIDES"
AURORA, ILLINOIS, U.S.A.

Branches: New York Chicago Boston Philadelphia Cleveland Cincinnati Washington, D.C.
Indianapolis St. Louis New Orleans Des Moines Minneapolis Kansas City
Los Angeles San Francisco Omaha Seattle Detroit Atlanta Pittsburgh

- Horizontal and vertical wheel units alternate in a continuous chain traveling through rectangular steel tubing.
- Complete flexibility. Easily installed, easily altered.
- SAFE—all moving parts fully enclosed.
- Low first cost. Low power factor.
- Load capacity: Single suspension 65 lbs. per link—multiple suspension 125 lbs.; 250 lbs. per foot maximum.
- Standard horizontal or vertical curves—two-foot radius. (Stock load pendants including automatic turning units available.)



THE SHOW . . .

(Continued from page 55)

A. J. GERRARD & CO.

SPACE 114

221 N. La Salle St., Chicago 1, Ill.
WHAT PRODUCTS: Gerrard Steelbinder
Stitcher Line, Steelbinder and Bulk
binder Strapping Equipment and Accessory items.
WHO WILL MEET YOU: J. M. Gerrard,



President; D. F. Downing, Executive Vice-
President; Henry Wenk, Vice President;
C. M. McCarter, Sales Department; H. C.
Deifenderfer, Sales Department; Gerald D.
Brennan, Eastern District Manager.

GERRARD STEEL STRAPPING CO.

SPACE 104

2915 W. 47th St., Chicago 32, Ill.
WHO WILL MEET YOU: E. P. Ribet, Man-
ager McKees Rocks Office; E. B. Kovats,
Assistant Manager, McKees Rocks Office;
H. M. Reed, Chief Stowage Engineer; F. B.
Shaw, Salesman, McKees Rocks Office.

GLOBE HOIST CO.

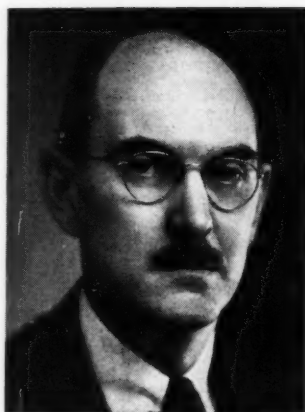
SPACE 124

East First & Court Ave., Des Moines, Ia.
WHAT PRODUCTS: Standard Loading Lift.
WHO WILL MEET YOU: Harry D. Smith,
Vice President; L. E. Porter, Manager, In-
dustrial Division; E. C. Keller, Western
Sales Assistant.

GOULD STORAGE BATTERY CORP.

SPACE 309

Depew, N. Y.



R. G. REDHEAD
Committee
Material Handling Theater

J. W. GREER CO.

SPACE 113

119 Windsor St., Cambridge 39, Mass.
WHAT PRODUCTS: Working Model of Greer
Multi-tier Conveyor.
WHO WILL MEET YOU: Don S. Greer, Vice
President, Sales; C. R. Becker, Sales Engi-
neer; Stanley Piwowski, Engineer.

HARNISCHFEGER CORP.

SPACE 3

4643 W. National Ave., Milwaukee,
Wisc.
WHAT PRODUCTS: "Thru-the-Air" ma-
terial handling equipment featuring actual
working model of new A. C. Crane Con-
trol.
WHO WILL MEET YOU: F. Blum, Sales



Manager, Crane Sales; E. Potratz, Sales
Manager, Hoist Sales; B. Pratte, District
Manager, Pittsburgh Office.

W. F. HEBARD & CO.

SPACE 616

336 W. 37th St., Chicago, Ill.

THE HERTNER ELECTRIC CO.

SPACE 506

12690 Elmwood Ave., Cleveland, O.

J. R. HOOPER CO.

SPACE 326, 338

Brookfield, Ill.
WHAT PRODUCTS: Various types of Con-
veyors.
WHO WILL MEET YOU: J. R. Hooper,
Owner; Geo. E. Peterson, Purchasing Agent
and Office Manager; E. V. Thompson,
Engineer; John V. Hajney, Engineer; Wayne
Strausen, Shop Superintendent.

THE FRANK G. HOUGH CO.

SPACE 304

Libertyville, Illinois
WHAT PRODUCTS: Improved Model HA
Payload, Chrome Plated Operating Model
HL.
WHO WILL MEET YOU: C. E. Killebrew,
Sales Manager; G. A. Tamblin, Sales De-
partment; B. Howe, District Representa-
tive; D. Burnett, District Representative.

HYDRO-POWER, INC.

SPACE 5-A

Belmont & Sheridan Aves., Springfield,
Ohio

HYSTER CO.

SPACE 319, 331

2941 N. E. Clackamas, Portland 8, Ore.



WHAT PRODUCTS: Hyster "40", Brick Fork,
Hyster Straddle Truck, Hyster Karry Crane.
WHO WILL MEET YOU: Ernest G. Swigert,
President; Eugene Caldwell, Vice-Presi-
dent; Frank Ross, Vice-President; Phil
Hill, Sales Manager; C. H. Collier, Jr.,
Eastern Sales Manager; Ray Ronald, West-
ern Sales Manager; D. Johnson, Sales Pro-
motion Manager; Hal White, Show
Manager.

INDIANAPOLIS WIREBOUND BOX CO.

SPACE 730

1300 Beecher St., Indianapolis 7, Ind.

INDUSTRIAL PALLET CO., INC.

SPACE 540

Woolworth Bldg., New York, 7, N. Y.
WHAT PRODUCTS: Hardwood Pallets.
WHO WILL MEET YOU: James S. Haith-



waite, President; Fred E. Hauschild, Treas-
urer; Frank A. Randel, Assistant Sales
Manager; Frank J. Tracy, Sales; Paul T.
Dalrymple, Sales.

INDUSTRIAL WASHING MACHINE CORP., PALLET DIV.

SPACE 538

Howard & Burnett St., New Brunswick
N. J.

INLAND WIRE PRODUCTS CO.

SPACE 706

Chicago, Ill.
WHAT PRODUCTS: Inland Speed Stitcher
and Wier Tying Machines.
WHO WILL MEET YOU: E. A. Johnson,
President; R. B. Loucks, Vice President;
E. A. Johnson, Jr., Robert Dorn, Sales.

INSLEY MFG. CORP.

SPACE 314

801 N. Olney St., Indianapolis, Ind.
WHAT PRODUCTS: 1/2 cubic yard Clamshell
crane, model K-12.
WHO WILL MEET YOU: Fred B. Ray, vice



president; L. R. Russell, chief engineer;
Charles J. Klee, service engineer; A. L.
Perkins, advertising agent.

IRONBOUND BOX & LUMBER CO.

SPACE 311

50 Hoffman Place, Hillside, N. J.
WHAT PRODUCTS: "Flo-Truk" (Platform

FLOW

Truck), Skid Platforms, Semi-Live Skids, Lift Jacks, Skid Box Tops, Skid Boxes, Dollies, Barrel Skids, Pry Bars.

WHO WILL MEET YOU: C. H. Strauss, General Sales Manager; H. N. Lesscr, Assistant General Sales Manager; H. Manson, Eastern District Sales Manager.

ISLAND EQUIPMENT CORP.
SPACE 618, 619, 620

101 Park Avenue, New York 17, New York

WHAT PRODUCTS: Live Roller Belt Con-



veyor, Styl-O-Veyor, Ultimate Double Flex Chain Case Conveyor, Bottle & Can Unscrambler, Bottle, Jar and Can Conveyor, Rotary Accumulating and Unscrambling Tables, Belt Conveyor, Gravity Conveyor in different types.

WHO WILL MEET YOU: Denny Bohn, Donald Stiles, Arthur Haar, M. Van Billiard, Sales Engineers; Samuel Eckhaus, Chief Engineer; John W. Stiles, General Manager; Nicholas Gross, Service Manager.

THE JOYCE-CRIDLAND CO.
SPACE 543-B, 544

2027 E. First St., Dayton, O.

KALAMAZOO MFG. CO.
SPACE 719

Kalamazoo 24F, Mich.

KEEN MFG. CO.
SPACE 532

Arsenal & Huron Sts., Flat Rock 1, Mich.

WHAT PRODUCTS: Home Delivery Appliance Mover, Carrying Handles.

WHO WILL MEET YOU: J. C. Chenette, President; D. E. Snyder, Sales Manager.

THE LANHAM CO.
SPACE 12

12th and Magnolia Sts., Louisville 10, Kentucky

WHAT PRODUCTS: Steelbound Skid Platforms, Steelbound Bins, Rollaway Skids.

WHO WILL MEET YOU: Charles T. Lanham, President; Peter B. Lanham, Jr., Secretary and Treasurer; Robert S. Piatt, Sales Department.

LANSING CO.
SPACE 737

P. O. Box 750, Lansing 3, Mich.

WHAT PRODUCTS: Two and Four Wheel Trucks

WHO WILL MEET YOU: S. E. Race.

LAWRENCE UNIVERSAL PALLET CORP.
SPACE 529

37 Drumm St. San Francisco 11, Cal.

WHAT PRODUCTS: New Improved Lawrence Universal Pallet.

WHO WILL MEET YOU: D. I. Pursley; L. S. Coates; S. D. Maddock, Jr.; A. T. Bear.

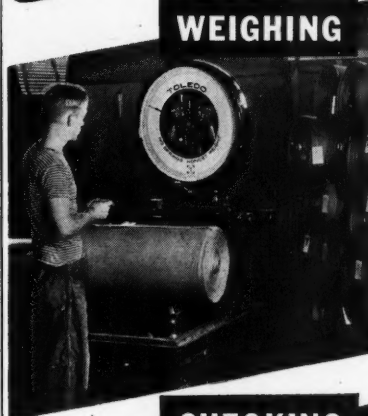
G. B. LEWIS CO.
SPACE 545

Watertown, Wisc.

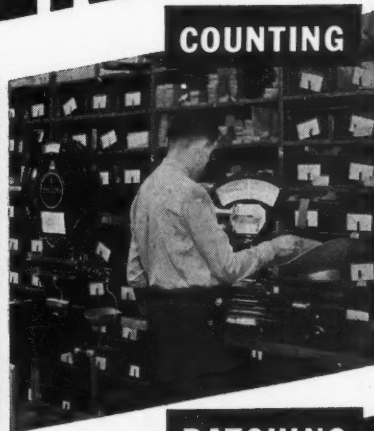
WHAT PRODUCTS: Lewis Industrial Containers, Stacking Boxes, Stacking Skid Boxes, Box Trucks.

WHO WILL MEET YOU: H. Riedemann, Sales Manager; Steve Parks, General Sales Man-

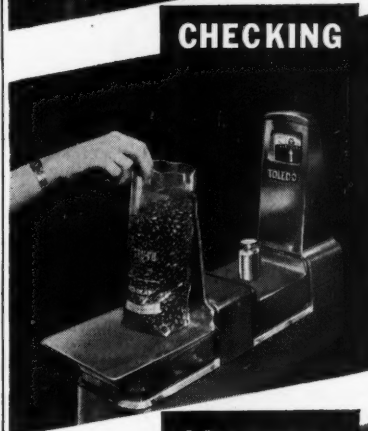
Control Costs! STOP ± ERRORS



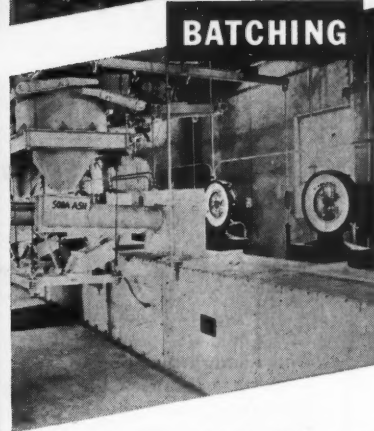
WEIGHING



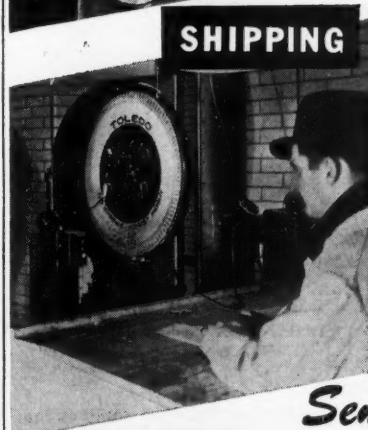
COUNTING



CHECKING



BATCHING



SHIPPING

Rapid, accurate Toledo Scales meet the needs in plants today where greater productivity PLUS closer cost control are essential!

Toledo Accuracy prevents small errors from multiplying into big losses and high costs. Toledos save time by making each weighing operation quick and sure. Let Toledo help you with your control jobs in weighing, checking, testing, counting, batching, force-measuring. Toledo Scale Company, Toledo 12, Ohio.

New illustrated bulletin
No. 2020 shows Better Ways
to control costs.



Send for this

TOLEDO

HEADQUARTERS FOR SCALES

FAMOUS QUOTES

HISTORICALLY SPEAKING
"DELEND A EST
CARTHAGO"*

GENERALLY SPEAKING
"the container is part
of the product"

And a mighty important part indeed! Important because General Engineered Shipping Containers are designed specifically for the product. They are compact and lightweight—no space or weight is wasted. They support and protect the product.

Furthermore, frequently the product and the container can "roll" down the production line together, as a unit. Result: you save man-hours and increase production.

Our engineers will be glad to study your packing problems. Write today. Also send for your free copy of the current issue of "The General Box."

*Marcus Porcius Cato (234-149 B. C.) senior Roman Senator, concluded many major speeches with the ringing warning that, "Carthage must be destroyed."

GENERAL BOX COMPANY ..engineered shipping containers

GENERAL OFFICES: 60 W. Illinois St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati
Detroit, East St. Louis, Kansas City, Louisville, Milwaukee
New Orleans, Sheboygan, Winchendon, Natchez.
Continental Box Company, Inc.:
Houston, Dallas.



General
Wirebound
Crate



General
Nailed Box



General Cleated
Corrugated
Container



General
All-Bound Box



General
Corrugated
Box



General
Lift Pallet

See us at Materials Handling Show
January 12 to 16
Cleveland

ager; F. H. Shuman, Cleveland Representative.

LEWIS-SHEPARD PRODUCTS INC.

SPACE 612

125 Walnut St., Watertown, Mass.

WHAT PRODUCTS: Industrial Trucks, Skid Platforms, Stackers, Portable Elevators, Steel Storage Racks and Portable Cranes.
WHO WILL MEET YOU: A. L. Lewis, President; F. J. Shepard, Jr., Treasurer; Lyman Nivling, Sales Manager; Howard Palmer,



Divisional Sales Manager, Power Fork Trucks and Power Jacklift Trucks; J. P. Ascher, Divisional Sales Manager, Electric Fork Trucks; R. D. Jones, Divisional Sales Manager, Gasoline Fork Trucks.

A LIST of educational as well as entertaining motion picture films showing the efficient use of equipment has been scheduled for the Material Handling Theater. Showings are continuous during the exposition hours. A partial list, available at press time, includes the following titles and producers:

"It's Your Money", Yale and Towne Mfg. Co.

"Pay Loads Pay Off" and "Skylift News Reel", Automatic Transportation Co.

"Loading Docks and Floor-to-Floor Elevators", Joyce-Gridland Co.

"Flow Process Chart—and How to Use It", Electric Industrial Truck Assn.

"The Payloader", Frank G. Hough Co.

"Styl-O-Matic Straightline Unscrambling Table", Island Equipment Co.

"Material Handling Newsreels No. 1 and 2", Clark Tractor Division of Clark Equipment Co.

"Barber-Greene's In Action", Barber-Greene Co.

"20 Minutes Versus Eight Hours", Acme Steel Co.

"Pneumatic Tired Truck Operations", Ross Carrier Co.

"Mobilift Loading Dock Operations", Vaughan Motor Co.

LOCOMOTIVE CRANE ASSN. SPACE 743

16226 Waterloo Rd., N. E., Cleveland
10, O.

LYON-RAYMOND CORP.

SPACE 328

398 Madison St., Greene, N. Y.

WHAT PRODUCTS: Hydraulic Sheet Feeding Table, Single Stroke Lift Truck, Tote Pan Lift Truck, Hydraulic Lift Truck for Skid Platform, Hydraulic Streamlined Pallet Lift Truck, Portable Hydraulic Elevating Table, Hydraulic High Lift Truck.

WHO WILL MEET YOU: George G. Raymond, Sr., President and Treasurer; George C. Raymond, Jr., Secretary; Ivan S. Bailey, Sales Promotion Manager.

MAGLINE, INC.

SPACE 726

Pinconning, Mich.

WHAT PRODUCTS: Magnesium alloy "Magliner" two wheel hand trucks, magnesium alloy dockboards.

WHO WILL MEET YOU: Ray V. Miller, vice president & sales manager; Don C. Law, president and chief engineer; J. R. Thorpe, treasurer and production manager; Roy C. Goettche, advertising consultant.

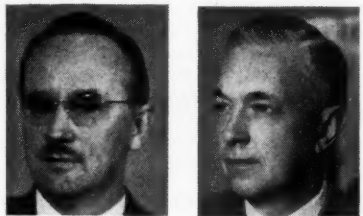
MAGNESIUM COMPANY OF AMERICA

SPACE 410

1 N. La Salle St., Chicago 1, Ill.

WHAT PRODUCTS: Light Weight Magnesium Hand Trucks, Light Weight Magnesium Barrel Skids, Light Weight Magnesium Dockboards.

WHO WILL MEET YOU: Miles L. Abel, Vice



President, Chicago; W. P. Sigler, Eastern Sales Manager; Jed Ostling, Sales, Los Angeles; Charles Martin, Sales, Los Angeles; Dick McKee, Dealer Representative, Chicago; Bill Brown, Sales, Chicago; Edward Schneiderhan, Sales, Chicago; Melvin Roeda, Sales, Chicago; George Murray, Sales, Utica office; John Harris, Sales, Detroit; Vic Daniels, Jim Eastman, Don-Merriman, Jim Polak, and Robert O'Donnell, Engineers, Chicago; Robert C. Robey.

MANNING, MAXWELL & MOORE, INC.

SPACE 604

Muskegon, Mich.

MANSAYER INDUSTRIES, INC.

SPACE 513

310 East St., New Haven, Conn.

MARSH STENCIL MACHINE CO.

SPACE 103

Belleville, Ill.

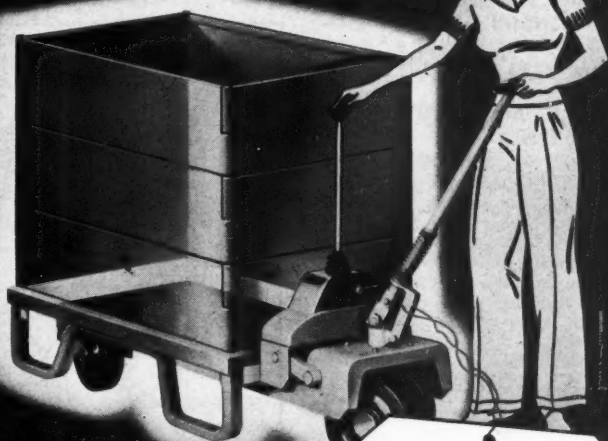
WHAT PRODUCTS: Electric Model Marsh Stencil Machines.

WHO WILL MEET YOU: Walt Marsh, President; E. J. Marsh, Secretary; Herbert Hempel, Chief Engineer.

MATERIAL HANDLING INSTITUTE

SPACE 102

MARKET FORGE MOVES MORE



WRITE FOR
MANUAL 1005 MH

LOAD - LIFTS

3000 lb. models all equipped with 10" dia. x 2 1/2" face front wheels. Steel and plastic rear wheels 3" face . . . cushion rubber 4" face. Each wheel equipped with two sealed ball bearings. Lifts easier . . . pulls easier. Sealed . . . dirt proof . . . hydraulic system. 5000 lb. models too!

STANDARDIZED

New in the field of Materials Handling Equipment is the economy feature of standardization and mass production . . . the result of extensive study and research.

AVAILABILITY

No waiting . . . just order! Market Forge Materials Handling Products are ready for "off-the-shelf" shipment.

DISTRIBUTORS! Attention!

Write for complete details.



PRICE LIST

3000 LB. — 24" WIDE — 3" LIFT

Lowered Height	Length Platform	Rolled Steel Wheels	Cushion Rubber Wheels	Plastic Wheels
36"		\$226	\$266	\$276
42"		232	272	282
48"		238	278	288
54"		244	284	294
60"		250	290	300
72"		261	301	311
36"		210	248	258
42"		216	254	264
48"		222	260	270
54"		238	266	276
60"		234	272	282
72"		245	283	293
36"		205	241	251
42"		211	247	257
48"		217	253	263
54"		223	259	269
60"		229	265	275
72"		240	276	286
36"		199	233	243
42"		205	239	249
48"		211	245	255
54"		217	251	261
60"		223	257	267
72"		234	268	278
Deduct for 18" Wide		15.00	15.00	15.00

Prices F.O.B. Factory. Discounts for quantity.

AT THE SHOW, BOOTH 602

See our complete line of Standardized Units or write for Manuals . . .

- 1001 MH LOAD-MOVERS (Casters)
- 1002 MH LOAD-PACS (Running Gear)
- 1003 MH LOAD-CARRIERS (Floor Trucks)
- 1004 MH LOAD-VEYOR (Portable Conveyor)
- 1005 MH LOAD-LIFTS
- 1006 MH LOAD-SKIDS
- 1007 MH SEMI-SKIDS AND JACKS

MARKET FORGE COMPANY

"MATERIALS HANDLING SINCE 1897"

EVERETT 49, MASS. (DEPT. 60) EVERETT 4100

THE SHOW

MATERIAL HANDLING & POWER TRANSMISSION

SPACE 313

310 W. Exchange St., Arkon 3, O.

MATERIAL MOVEMENT INDUSTRIES, INC.

SPACE 116, 117

310 S. Michigan Ave., Chicago 4, Ill.

WHAT PRODUCTS: Small Bulk Conveyor for use in press rooms; Small Undercar Un-loader; Tote-All Zephyr, lightweight bulk material conveyor; Tote-All Packaged Material Conveyor with special head section and tail section.

WHO WILL MEET YOU: Horton Conrad, President.

MATHEWS CONVEYOR CO.

SPACE 308

Ellwood City, Pa.

WHAT PRODUCTS: New Eastern and Western Style Portable Belt Conveyors, General Purpose Belt Conveyor, Aluminum Roller Conveyor, Wheel, Ball Transfers, Dollies.

WHO WILL MEET YOU: J. S. Bowater, Manager, Merchandise Sales Division; A. M. Burt, Engineer Merchandise Sales Division; Lee Sekulski, Sales Manager; H. E. Helling, Jr., Advertising Manager.

MAY-FRAN ENGINEERING INC.

SPACE 308

1710 Clarkstone Rd., Cleveland 12, O.

WHAT PRODUCTS: Sheet Lifter, Little Hustler Jr. Conveyor, Steel Belt Conveyor, Steel Belt, Little Hustler Portable and Adjustable Conveyor.

WHO WILL MEET YOU: E. W. Franz, Secre-



tary and Treasurer; G. H. Meyfarth, Jr., Vice President; C. F. McCrory, Sales Manager; C. F. Conrad, Chief Engineer.

McGRATH-ST. PAUL CO.

SPACE 534

242 E. 5th St., St. Paul, Minn.

WHAT PRODUCTS: Nesting Skids.

WHO WILL MEET YOU: H. Webbe King, Sales Manager.

MEESE, INC.

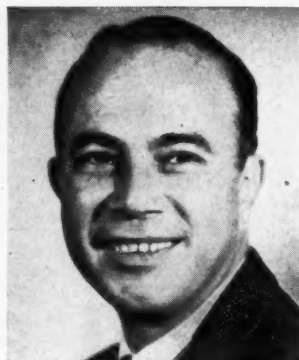
SPACE 112

1936 Harris Ave., Madison, Ind.

WHAT PRODUCTS: "Cast Aluminum" Two Wheel Freight and Barrel Trucks, Hand,

Collapsible Metal Trucks, Canvas Baskets and Trucks.

WHO WILL MEET YOU: E. W. Meese, Sales Manager; C. B. Stoltz, Salesman.



LESTER P. AURBACH

Committee

Material Handling Theater

THE MERCURY MFG. CO.

SPACE 609

4044 South Halsted Street, Chicago 9, Illinois

WHAT PRODUCTS: Standard Trucks, Tractors and Trailers.

WHO WILL MEET YOU: L. J. Kline, Executive Vice-President, Chicago; C. W. Hen-



kle, Vice President and General Manager, Chicago; P. K. McCullough, Production Manager, Chicago; O. T. Henkle, Jr., Assistant General Manager, Chicago; H. E. Milz, Chief Engineer, Chicago; A. E. Radcliffe, Cleveland District Representative; A. W. Leet, Michigan Representative; L. F. Meissner, Jr., Pittsburgh Representative.

MERRILL BROTHERS

SPACE 438

46-18 Arnold Ave., Maspeth, L. I., N. Y.

WHAT PRODUCTS: Twin Barrel Lifter, Standard Flat Plate Lifting Clamp.



WHO WILL MEET YOU: William Sickles; Val Murtha.

MIDWEST PALLET CORP.

SPACE 718

327 Lemcke Bldg., Indianapolis, Indiana



WHAT PRODUCTS: Wood Pallets.

WHO WILL MEET YOU: Ray W. Capron, President; H. B. Holman, Sales Manager.

MIDWEST-PRECISION CORP.

SPACE 742

Jackson, Mich.

WHAT PRODUCTS: Semi-Steel, Steel-Weld and Forged-Weld lines of Casters.

WHO WILL MEET YOU: K. P. Klink; Frank Morris.

MOBILIFT CORP.

SPACE 336

835 S. E. Main St., Portland, Ore.

WHAT PRODUCTS: Mobilift Fork Trucks.

WHO WILL MEET YOU: T. J. Kinsella, Midwest Division Manager; A. J. Collins, Northeastern Division Manager; T. H. Skeel, Southeastern Division Manager; James Spense, Sales Promotion Manager; H. G. Boutin, Vice President.



MODERN MATERIALS HANDLING

SPACE 425

MONROE AUTO EQUIPMENT CO.

SPACE 312

Monroe, Mich.

WHAT PRODUCTS: Drop-Bottom Skid Boxes, All Steel Pallets, Knock Down Pallet Shipping Boxes, Corrugated Steel Skid Box.

WHO WILL MEET YOU: C. S. McIntyre, Vice President in Charge of Sales; J. E. Bickel, Sales Manager, Parts & Accessory Division; H. C. McPike, Sales Department; F. Stoner, Engineering Department; Wm. Winchell, Sales Department.

MORRISON CO.

SPACE 306

4119 Prospect Ave., Cleveland, O.

WHO WILL MEET YOU: H. C. Morrison, President; J. H. Morrison, Vice-President; E. I. Mellinger, Secretary; E. J. Dumm, Engineer; W. M. Kelly, W. E. Curran, A. M. Untch, W. P. Cool, Jr., W. A. Holl, Salesmen.

MOTOR GENERATOR CORP.

SPACE 536

Troy, O.

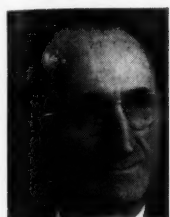
WHAT PRODUCTS: Battery Chargers of the Motor-Generator type.

WHO WILL MEET YOU: D. W. Baker, Sales Manager; G. O. Williams, Engineer; J. D. Sampson, Engineer; H. E. Royer, Sales Department; R. C. Holder, Sales Department.

THE MOTO-TRUC CO. SPACE 318

1953 E. 59th St., Cleveland 3, O.

WHAT PRODUCTS: Silver Queen Moto-Truc, Hi-Lift Fork Truck, Motorized Platform,



Pallet, Tractor, Hi-lift, Tin plate, Hi-lift Telescopic Trucks.

WHO WILL MEET YOU: I. F. Schreck, President; E. L. Beisl, Vice-President; E. H. Davidson, Secretary & Treasurer; Paul F. Schreck, Shop Superintendent; Robert C. Heiser, Sales & Service; S. W. Williams, Purchasing Agent; M. F. Huff, Sales.

NATIONAL METAL EDGE BOX CO. SPACE 110

344 N. 12th St., Philadelphia 7, Pa.

WHAT PRODUCTS: Improved Metal Edge Method of Material Handling, Inventory Control and Packaging.

WHO WILL MEET YOU: M. P. Junkin; S. George Karr; W. G. Muhleisen; R. A. Branca; S. H. Nicholson; Charles Paist; L. E. Berry.

NATIONAL PALLET CORP. SPACE 523

Berger Bldg., Pittsburgh 19, Pa.

WHAT PRODUCTS: Pallets, Boxes, Skids.

WHO WILL MEET YOU: Harry I. Miller, President; Lee S. Miller, Secretary; P. R. Hobstetter, Sales Engineer; W. B. Farnsworth, Sales Engineer.

NATIONAL WOODEN BOX ASSN. SPACE 10

Barr Bldg., Washington 6, D. C.

WHAT PRODUCTS: Wooden Pallets, Wooden



R. L. WOLTER
Chairman
Publicity Committee

Boxes and Wooden Crates.
WHO WILL MEET YOU: Wm. H. Sardo, Jr., Secretary.

NOOK AND O'NEILL, INC. SPACE 212, 213

2074 E. 65 St., Cleveland, O.

WHAT PRODUCTS: Casters, Hand Trucks, Mechanical Hand Lift Trucks, Hydraulic Hand Trucks, Rolaway Conveyors, Motorized Hand Platforms.

WHO WILL MEET YOU: Robert Slife, President; Matthew Parks, Charles Clinton, Thomas Keane, Bradford Beeching, Salesmen.

NUTTING TRUCK AND CASTER CO. SPACE 402

1125 W. Division St., Faribault, Minn.

WHAT PRODUCTS: Beverage and Carton Truck, Dish Truck, Dollies, Jack, Barrel Racks and Trucks, Wheels and Casters.

WHO WILL MEET YOU: A. B. Morris, Vice



President and General Manager; K. F. Heath, Sales Manager and Assistant Treasurer; N. S. Shaft, Treasurer and Superintendent; G. S. Allen, Secretary and Traffic Manager; W. H. Morris, Production Manager; M. A. Larson, Advertising Manager; R. L. Caron, Sales; F. J. Schlatter, Sales.

OHIO EQUIPMENT CO., INC. SPACE 122

1367 E. Sixth St., Cleveland 14, O.

WHAT PRODUCTS: A full and complete line of the latest in Materials Handling equipment for intra-plant transportation.

WHO WILL MEET YOU: E. M. Abramson;



A. P. Carstensen; Sam Zipp; Charles Yarham; James Kile; Clarence Weidner; James Cunningham; Celia Baden; Ann Burgess; Lois Johnson; E. J. Werner; S. J. Herring.

OLACH, INC. SPACE 736

333 N. Oakley Blvd., Chicago, Ill.

ORANGEVILLE MANUFACTURING CO. SPACE 320

Orangeville (Col. County), Pa.

WHAT PRODUCTS: All Purpose Appliance Truck, Two and Four Wheel Hand Trucks and Dollies.

WHO WILL MEET YOU: L. Clair Conner; John C. Conner; Richard C. Megargell.

OTIS ELEVATOR CO. SPACE 524

260—11th Ave., New York 1, N. Y.

WHAT PRODUCTS: POW-R-Truck Elevators, Geared Freight Elevators.

OZARK PALLET CO. SPACE 517

Bergman, Ark.

WHAT PRODUCTS: Pallets & Skids.



WHO WILL MEET YOU: Harvey Harrison, Vice President and General Manager; Lotha O. Harrison, Secretary, Treasurer, and Assistant Manager.

PALLETS, INC. SPACE 1

Glens Falls, N. Y.

WHAT PRODUCTS: Pallets, Tote Boxes, Rack Pallets.

WHO WILL MEET YOU: A. S. Binley, Jr., Vice President; C. Jay Rockstead, President.

PALLET SALES CORP. SPACE 428

122 E. 42nd St., New York 17, N. Y.

WHO WILL MEET YOU: Harold L. Posner,



President; C. H. Barker, Jr., Vice President and Director of Research and Service.



MILTON M. ENZER
Publicity Committee

HALLOWELL

TRUCKS of STEEL



Fig. 753
4-Wooden-Stakes



Fig. 760
1-Bar Handle



Fig. 757
2-Bar Handles

**... BUILT TO TAKE
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FOR YEARS**

... and with minimum maintenance and repair. This sturdy, welded, splinter-proof construction insures against weak, loose joints, wobbly trucks and rapid wear ... casters with free-rolling wheels make the "Hallowell" run easily, even under heavy loads. Types and styles—each a model of smooth-running durability—are available for every service. Write for your copy of the "Hallowell" Catalog, it describes them all.

"Hallowell" Products are sold entirely through Industrial Distributors.



Fig. 762
2-Pipe Stakes



Fig. 751
4-Pipe Stakes



Fig. 772
1 Rack

OVER 45 YEARS IN BUSINESS

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PALLET SYSTEMS, INC.
SPACE 307
101 Guardian Building, Cleveland, O.

PATRON TRANSMISSION CO. INC.
SPACE 533

129 Grand St., Dept. F. M., New York, N. Y.

WHAT PRODUCTS: Pre-Fabricated All-Aluminum Power Conveyor

WHO WILL MEET YOU: Irving Patron, General Manager; Jack P. Hardman, Chief Engineer.

PITTSBURGH STEEL PRODUCTS CO.
SPACE 415

Pittsburgh 30, Pa.
WHAT PRODUCTS: Wire Pallets and Cargo-tainers.

WHO WILL MEET YOU: H. D. Stone; Ken S.



Hartung; Paul F. Mungan; Don Kelsey; Bob Marshall; H. H. Robinson; H. J. Venger.



PENTON PUBLISHING CO.
SPACE 206

POWELL PRESSED STEEL CO.
SPACE 431, 435

Hubbard, O.

WHAT PRODUCTS: Pressed Steel Platforms, Boxes and Pallets.

WHO WILL MEET YOU: W. J. Powell, President; H. L. Powell, Assistant Vice President; A. G. Knowles, Manager of Sales.

POWER CRANE AND SHOVEL ASSN.

SPACE 332

WHAT PRODUCTS: A Mobile Line of Self-Contained, Powered-Handling Equipment.

PREBEN JESSEN CO.
SPACE 108A

Chrysler Bldg., New York, N. Y.

PRODUCTION AIDS, INC.
SPACE 615

6842 Beck Ave., North Hollywood, Cal.
WHAT PRODUCTS: Original Automatic Pal-



let Loader, Power and Roller Conveyor, Power Booster and Power Curve.
WHO WILL MEET YOU: Lauren A. Dahl.

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RACK ENGINEERING CO.
SPACE 106, 107
5102 Butler St., Pittsburgh, Pa.

RAPIDS-STANDARD CO., INC.
SPACE 610
People's National Bank Bldg., Grand Rapids 2, Mich.



READY-POWER CO.
SPACE 401
Kales Bldg., Detroit 26, Mich.

WHAT PRODUCTS: Ready-Power Units for Electric Industrial Trucks, Magnet Charger.

WHO WILL MEET YOU: Al Huneck, Service Engineer; F. E. Hayden, Chicago District Manager; George Frampton, Pittsburgh District Manager; Rueben Pelto, Assistant Sales Manager; Durward Morgan, Birmingham District Manager; L. H. Tanney, Sales Representative, Detroit; Arch R. Smith, Vice-President of Sales.

RE-BO MFG. CO., INC.
SPACE 518
331 Madison Ave., New York City, N. Y.

WHAT PRODUCTS: Hand and Platform Trucks, Skids, Pallets.



WHO WILL MEET YOU: James R. Katzman, President; Richard I. Kahl.

REVOLVATOR CO.
SPACE 203

8732 Tonnele Ave., N. Bergen, N. J.

WHAT PRODUCTS: Go-getter electric truck, portable elevators and hand lift trucks.

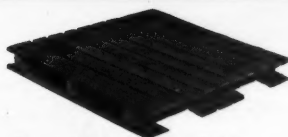
WHO WILL MEET YOU: H. S. Germond III, P. D. Germond, A. C. Wigren, R. D. Fisher.

RICHARDS-WILCOX MFG. CO.
SPACE 412

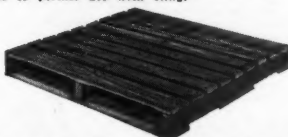
200 Third St., Aurora, Ill.

WHAT PRODUCTS: Zig Zag Continuous Power Conveyor.

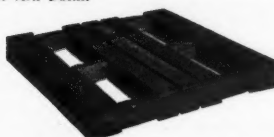
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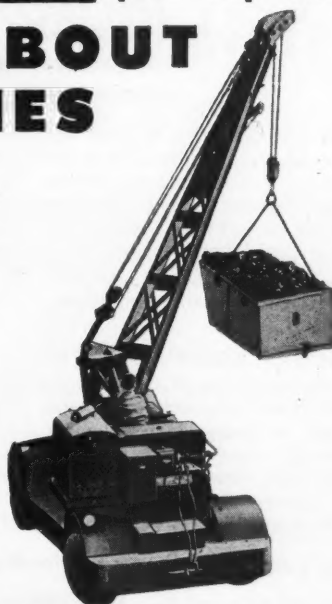
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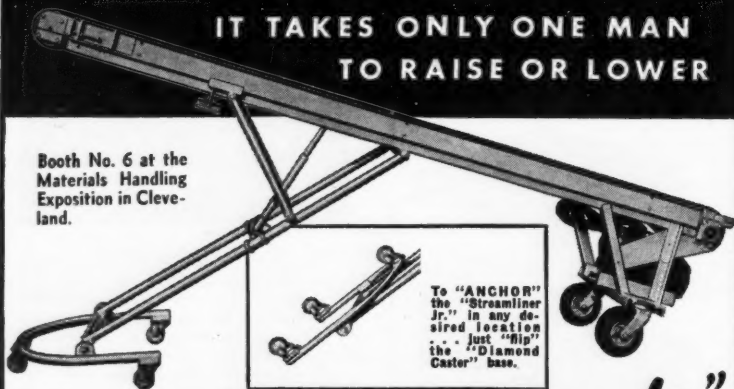
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ROBBINS & MYERS, INC.

SPACE 429

1345 Lagonda Ave., Springfield, O.

WHAT PRODUCTS: Various types of hoisting equipment.

WHO WILL MEET YOU: W. J. Helmer, General Sales Manager; J. R. Mears, Hoist Division Sales Manager; Albert Kreh, New York Office; Ralph Smith, Chicago Office; Robert Kite, Philadelphia Office; C. E. Schirmer, Springfield Office; Roy Ober, Springfield Office; Edis Koch, Springfield Office.

ROSS CARRIER CO.

SPACE 605, 606, 608

Benton Harbor, Michigan

WHAT PRODUCTS: Pneumatic-Tired Lift Trucks and Straddle Carriers.

WHO WILL MEET YOU: D. H. Ross, Treasurer; A. P. Ross, Vice President; A. L. Bliven, Eastern Sales Manager; C. G. Kennedy, L. A. DePolis, Sales Department.

ROTARY LIFT CO.

SPACE 14

P. O. 2177, Memphis, Tenn.

WHAT PRODUCTS: Rotary Oilraulic Leva-



Dock, Rotary Oilraulic Tilt Lift, Rotary Oilraulic Levelators, Lumber Lifts, Transfer Bridges, Dumping Lifts, Factory Truck Lifts, Freight and Passenger Elevators.

WHO WILL MEET YOU: Hugh Allan, president; Jack Sanders, manager elevator division; J. B. Harrison, chief engineer; H. L. Lowry, division manager; H. J. Burlington, Jr., division manager; R. C. Campbell, division manager; W. W. Eberhart, division manager.

DAVID ROUND & SON

SPACE 715

Cleveland 5, O.

WHAT PRODUCTS: Chain Hoists, Trolleys, Winches.

WHO WILL MEET YOU: R. L. Round, Owner; T. E. Round, Owner; D. J. Gemmell, Sales Manager; R. B. Vasey, Advertising Manager; I. H. Round, Production Manager; D. A. Round, Sales Department; W. G. Holley, Sales Department; C. C. Martin, Chief Engineer; Hollister Fergus, Sales Representative.

THE SABIN MACHINE CO.

SPACE 120

6536 Carnegie Ave., Cleveland 3, O.

WHAT PRODUCTS: Sabin "One Man" Factory Truck.

WHO WILL MEET YOU: O. P. Sabin, Sales Manager; L. Petzinger, Chief Engineer.

SAGINAW PRODUCTS CORP.
SPACE 542

68 Williamson St., Saginaw, Mich.

WHAT PRODUCTS: Material handling equipment, wheels and vehicles.

WHO WILL MEET YOU: G. K. Mulholland,



president and general manager; P. J. Zehnder, assistant sales manager; E. L. Lee, sales engineer; G. E. Johnson, manager, Chicago district; C. C. McKenna, manager, Detroit district; Vince Basnik, manager, Cleveland district; C. A. Hagarty, sales department.

SCHWITZER-CUMMINS CO.
SPACE 325

1145 E. 22nd St., Indianapolis 7, Ind.

WHAT PRODUCTS: Load Dispatcher, Hydraulic Lift Platform, Pallet Transporter.



WHO WILL MEET YOU: J. A. McDaniel, Sales Manager; Paul I. Newman; C. H. Ellis; Walter Greenhalgh; C. E. Gil-yeat; R. L. Montgomery.

SERMAT CONVEYOR CORP.
SPACE 721

2350 W. 58th St., Chicago, Ill.

WHAT PRODUCTS: Portable Conveyors.

WHO WILL MEET YOU: W. A. Peterson; Edward Michena; Don Kline.

SERVICE CASTER & TRUCK CORP.

SPACE 333

Albion, Michigan

WHAT PRODUCTS: Casters, Floor Trucks, Dollies, 1948 Motowlift Trucks.



WHO WILL MEET YOU: E. C. Hamm, president; A. Graham Reid, vice president and manager, Motowlift Division; L. L. Reed,

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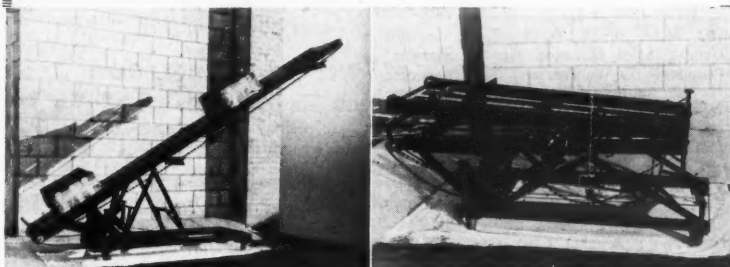
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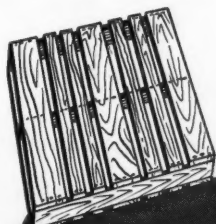
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SHERMAN PAPER PRODUCTS CORP.

SPACE 541

Newton Upper Falls, Mass.

WHAT PRODUCTS: Corroflex Tube Tainer, Corroflex flexible corrugated

WHO WILL MEET YOU: G. H. Stucke, General Sales Manager; George Sherman, President; E. W. Preston, Sales Manager; H. W. Aubrey, Assistant Sales Manager, Industrial Division; George Beak, Packaging Engineer; John Bode, Packaging Engineer; C. W. Turbayne, Packaging Engineer; Paul Thompson, Advertising & Sales Promotion Manager; John Feaver, Packaging Engineer; A. J. Bradley, Packaging Engineer; D. S. Roberts, Director of Operation; J. J. Connoughton, Plant Director.

SILENT HOIST & CRANE CO., INC.

SPACE 330

841 63rd St., Brooklyn, N. Y.

WHAT PRODUCTS: Lift-O-Krane, Fork Lift Truck, Silent Hoist Model GTM Car Puller Working Model of Krane Kar Mobile Swing-Boom Crane.

WHO WILL MEET YOU: J. W. Wunsch, President; M. M. Botnick, Sales Manager; M. M. Klein, Assistant Sales Manager.

SIGNODE STEEL STRAPPING CO.

SPACE 427

2600 N. Western Ave., Chicago, Ill.

WHAT PRODUCTS: Signode one-piece re-

taining doors, Signode's retaining strips, Signode grain doors.

WHO WILL MEET YOU: J. W. Leslie, Sr., president; J. W. Leslie, Jr., charge of re-



search; J. S. Gorman, vice president and general sales manager; J. M. Moon, sales manager; C. J. DaCosta, Cleveland district manager; J. W. Angell, manager marketing operations; L. S. Hunt, advertising manager; F. S. Anderson, manager of sales promotion.

THE SISALKRAFT CO.

SPACE 510

205 W. Wacker Dr., Chicago 6, Ill.

WHAT PRODUCTS: Fibrene; Waterproof, reinforced packaging materials.

WHO WILL MEET YOU: J. E. Harvey, Vice President; Hughes Deputy; Fred Koehn, Regional Representative.

SKARNES ENGINEERING & SUPPLY CO.

SPACE 504

2428 Riverside Avenue S., Minneapolis, Minn.

WHAT PRODUCTS: Quickie Rol-A-Lift, M-4 and M-6 Rol-A-Lifts.

WHO WILL MEET YOU: R. F. Skarnes, Owner; W. G. Burry, Partner; W. N. Lind, Salesman.

SMITH POWER TRANSMISSION CO.

SPACE 602

1545 E. 23 Street, Cleveland, O.

WHAT PRODUCTS: Mechanical Transmission Equipment

WHO WILL MEET YOU: R. Ferren; S. C. Smith; S. C. Smith III; H. P. White; P. Martin; F. Ingham; C. Lis; R. Walters; J. Lakner; R. Heck; W. Meier.

SPEEDWAYS CONVEYORS, INC.

SPACE 202

1261 Niagara St., Buffalo 13, N. Y.

WHAT PRODUCTS: Speedglu, Speedlift, Wheel Conveyor, Switches, Stands, Speedgate, etc.

WHO WILL MEET YOU: O'Roland Read, Sales Manager; Samuel Leone, Assistant to Sales Manager; Louis Arroyo, Export Manager; George MacCumber, Assistant Treasurer; and other personnel from sales and manufacturing divisions.

STANDARD CONVEYOR CO.

SPACE 508, 607

North St. Paul 9, Minn.

WHAT PRODUCTS: Handdrive, Extendoconveyor, Litewater Roller Conveyor.

WHO WILL MEET YOU: R. E. Cummings; F. B. Janssen; J. W. Donahower; S. E. Eggleston; E. E. Boberg

THE STANLEY WORKS STEEL STRAPPING DIVISION

SPACE 527

New Britain, Conn.

WHAT PRODUCTS: Complete line of Strapping and Carbanding Tools and Complete line of Strapping and Carbanding Accessories.

WHO WILL MEET YOU: F. E. Koerner, Cleveland District Manager; G. E. O'Brien, Chicago District Manager; A. H. Maben, Detroit Representative; W. H. Cook, Southern Ohio Representative; B. T. Taylor, Special Representative.

STEEL-PARTS MFG. CO.

SPACE 317

226 S. Morgan St., Chicago 7, Ill.

WHAT PRODUCTS: Portable Conveyors and Elevator, Power and Conveyor all Steel Belt.

WHO WILL MEET YOU: L. H. Klauer, Director of Sales; E. M. Plott, Chief Engineer; Frank Delano, Representative; George Herby, Representative.

STERLING BOLT CO.

SPACE 111

209 West Jackson Boulevard, Chicago 6, Illinois

WHAT PRODUCTS: Nuts, Bolts, Screws, Rivets and Washers. Some Screw Machine Items.

WHO WILL MEET YOU: D. P. Wertheimer, Sales Manager.

STEVENS APPLIANCE TRUCK CO.

SPACE 703

P. O. Box 897, Augusta, Ga.

WHAT PRODUCTS: The Escort Sr. Hand Truck for handling Automatic Bottled Drink Vending Machines, The Escort, Jr. Hand Truck for handling Package Goods and Bottled Beverages and the Escort Hand Truck for handling all types of Domestic Appliances.

WHO WILL MEET YOU: W. P. Stevens, Owner; Mrs. W. P. Stevens; Susie Pradat, Secretary.

STRATTON EQUIPMENT CO.

SPACE 614

1812 St. Clair Ave., Cleveland 14, O.

WHAT PRODUCTS: Hydraulic Portable Fork Cranes, Twin Dollies. Hydraulic Arbor Presses and Hydraulic Truck Mounted Cranes.

WHO WILL MEET YOU: R. R. Stratton, President; J. D. Russell, Secretary to the President; M. J. Stoffan, Office Manager; M. M. Hrehocik, Stenographer; J. E. Barilka, Accountant; E. J. Lapp, Sales Manager; C. D. McConkey, Division Manager.

THERMOID CO.

SPACE 604

Whitehead Rd., Trenton 6, N. J.

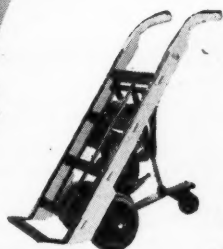
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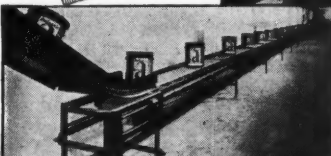
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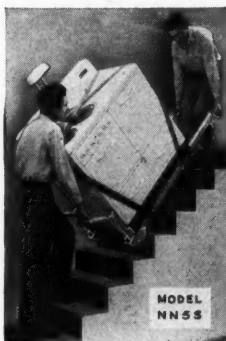
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Corrosion-resistant, spark-proof Aerol Aluminum Alloy Wheels have heavy-duty, solid rubber tires.

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All-aluminum wheels • rubber tired wheels
pneumatic wheels • rigid casters • swivel casters
all aluminum Universal hand trucks

THE SHOW

WHO WILL MEET YOU: A. F. Matheis, Sales Promotion Manager; W. H. Overman, Manger Friction Materials Division; J. R. Lambert, District Manager.

THOMAS TRUCK AND CASTER CO.

SPACE 2

Keokuk, Ia.

WHAT PRODUCTS: Trailers, Safety Wagon, Platform Trucks, Jak-Tung Trucks, Barrel Trucks, Wheels, Casters.

WHO WILL MEET YOU: J. F. Thomas, President and General Manager; L. B. Miller, Secretary and Treasurer; R. P. Moore, Sales Manager; J. W. Hutchison, Assistant Secretary; W. W. Wulf, Superintendent; C. P. Anderson, Sales Department; F. Simpson, Sales Department; J. F. Henderson, Sales Department; Wm. Guild, Engineer.

TOWMOTOR CORP.

SPACE 611

1226 E. 152 St., Cleveland O.

WHAT PRODUCTS: Various types of gasoline powered lift trucks and accessories.

WHO WILL MEET YOU: C. E. Smith, Executive Vice President; Alfred H. Roth, Advertising Manager; L. M. Sears, President; David H. Cissna, Sales Department; Lucas, Carl Meyer, Sales Department; Dan

Gordon Winters, Sales Department; L. F. Body, W. L. Utley, E. A. Buck, Robert G.



Wessman, Service Manager; Ray Wiggers, Advertising Department.



TRACT-R-LIFT CORP.

SPACE 733

605 N. Aberdeen St., Chicago, Ill.

WHAT PRODUCTS: Tract-R-Lift Fork Lift Truck.

WHO WILL MEET YOU: E. Sidney Feinstein; Dale Parke; Morris Mantel; Samuel Raife; Mr. Parker.

TRAFFIC SERVICE CORP.

SPACE 105

418 S. Market St., Chicago, Ill.

TRANSITIER TRUCK CO.

SPACE 210, 211

Route 6, Box 445, Portland 1, Ore.

WHAT PRODUCTS: Transitier Truck—Fork type lift truck

WHO WILL MEET YOU: Glen M. Ede, Sales Manager, Transitier Truck Co.; George W. Butler, President, Butler Products Co.;

Ralph Butler, Assistant Manager, Butler Products Co.; Earl W. Redd, Sales Manager, Butler Products Co.

TRUCK-MAN, INC.

SPACE 321

1410 W. Ganson St., Jackson, Mich.

WHAT PRODUCTS: Model "D" Gasoline Powered Lift Truck, Model "D" Platform Utility Truck.

WHO WILL MEET YOU: T. B. Funk, President; Ray Dunlap, Vice President; Walter Mayer, General Manager; Robert Hoyt, Chief Engineer; M. H. Anderson, Auditor; W. S. Butterfield, Secretary and Treasurer; John Flansburgh, Production Manager.

TRUSCON STEEL CO.

SPACE 617

6100 Truscon Ave., Cleveland, O.

WHAT PRODUCTS: Boxes, platforms and pallets.

WHO WILL MEET YOU: W. M. Whalen, general manager of sales; J. H. Ayre, assistant; L. S. Todd, assistant.

UNION METAL MFG. CO.

SPACE 324

1432 Maple Ave., N.E., Canton, O.

WHAT PRODUCTS: One-piece double corrugated aluminum skid platform, knock-down box on skid platform, knock-down box on skid platform (magnesium alloy); double corrugated steel skid platform, steel fork crane box, steel detachable tiering boxes, steel pallet racks.

WHO WILL MEET YOU: L. West Shea, manager, materials handling sales; L. E. Collins, materials handling sales; E. V. Bailey, order and service supervisor; Eric A. Brady, pro-

UP HILL!

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The **TROJAN TRACTOR** can be applied to **TRAVEL** . . .

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95 BHL	5 1/4 x 11 3/4 x 4 1/2	Green Finish—\$1.12 ea.
96 BHL	5 1/2 x 17 3/4 x 4 1/2	Green Finish—\$1.26 ea.
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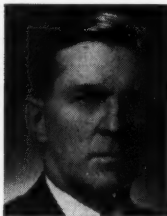
duction manager; Cyril Clark, development engineer; K. C. Dorland, sales supervisor; A. S. Fromm, advertising manager.

**UNISTRUT PRODUCTS CO.,
BUTLER PRODUCTS CO.**

SPACE 210, 211

1013-1015 W. Washington Boulevard,
Chicago, 7, Illinois

WHAT PRODUCTS: Versatile Steel Framing Member called "UNISTRUT" used for Storage Racks, Bins, Rolling Tables, and Pallet Racking. Transifier Fork Lift Truck.
WHO WILL MEET YOU: George W. Butler,



President; A. J. Croze, Vice President; Ralph F. Butler, Assistant to the President; John P. Heslin, Sales Manager.

UNIT CRANE & SHOVEL CORP.
SPACE 610-C

WHAT PRODUCTS: Unit 357 Self-Propelled Mobile Crane with Pendant Boom Suspension. New Tubular Hinged Boom. Scaled Models of Mobile Cranes, Chromium Plated Display of One-Piece Gear Case.

WHO WILL MEET YOU: George W. Mace, Advertising Manager; A. R. Corbett, Vice President; Wm. G. Larson, Sales Manager; Jack Lumley, Sales Representative.

UNIT MANUFACTURING CO.
SPACE 705

WHAT PRODUCTS: Industrial Wheels
WHO WILL MEET YOU: H. K. Bigelow, Company Official; M. M. Lowe, Company Official; J. A. Brand, B. B. Burk, E. A. Gauspohl, Ben Lamberg, Sales.

WATERMAN ENGINEERING CO.
SPACE 543-A

721 Custer Ave., Evanston, Ill.

WHAT PRODUCTS: Solenoid Valve, Flow Control Valves

WHO WILL MEET YOU: William Waterman, President; L. K. Billings, Secretary and Treasurer; J. R. McGuire, Sales Manager; H. A. Hedland, Chief Engineer.

JERVIS B. WEBB CO.
SPACE 601, 603

8951 Alpine Ave., Detroit, Mich.

WHAT PRODUCTS: "Power and Free" overhead conveyor.

WHO WILL MEET YOU: J. B. Webb, C. A. Sink, J. C. Webb, E. W. McCaul, M. F. Carroll.

WEHLE CONVEYOR CO.
SPACE 732

201-203 Water St., Binghamton, N. Y.

WHAT PRODUCTS: Wehle Elevator Conveyor



WHO WILL MEET YOU: E. C. Wehle, President; H. J. Wehle, Vice President.

WEST BEND EQUIPMENT CORP.
SPACE 323

West Bend, Wisc.

WHAT PRODUCTS: Pallet Lift Truck, Multistroke Hydraulic Single Frame Lift Truck, Portable Elevators, Two and Four Wheel Trucks, Hydraulic Lift Trucks, Skids and Boxes.



WHO WILL MEET YOU: C. E. Klumb, Secretary; C. J. Marks, Production Manager; P. A. Kessler, Engineer.

WESTINGHOUSE ELECTRIC CORP.

SPACE 613

150 Pacific Ave., Jersey City, N. J.

WHITING CORP.
SPACE 327

15661 Lathrop Ave., Harvey, Ill.

WHAT PRODUCTS: Whiting Electric Hoists, Whiting Light Cranes and Monorail Systems.

WHO WILL MEET YOU: B. A. Hanner, Manager Whiting Hoist Sales; R. W. Roberts, Manager Light Cranes and Monorail Sales; R. M. Russell, Assistant Advertising Manager; E. Dyrce, Engineer; C. Teeple, Sales; F. Glass, Sales.

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NO PALLETS NEEDED

to handle many kinds of materials



**NEW SERVICE
MOTOWLIFT**

with
**AIR-EXPANDING
FORKS**

(PATENT APPLIED FOR)

GRIPS the bottom course of stacked cartons . . . cases . . . bricks . . . concrete blocks, etc.

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MOTOWLIFT
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AT THE 2nd ANNUAL
MATERIALS HANDLING
EXPOSITION, CLEVELAND, or write to us
for full particulars.

Here's a revolutionary development in faster, easier, lower-cost materials handling. It works this way: When the air-expanding forks of this new Motowlift are inserted into the properly stacked material, the operator turns on an air compressor on the truck. Compressed air expands rubber tubes in the tines of the fork until they grip the load and hold it firmly. It's as simple as that.



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WILLIFORD MFG. CO.
SPACE 422
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WHO WILL MEET YOU: J. S. Williford, Jr.,
Vice President and Treasurer; J. W. Withers,
Secretary.

THE WILKIE CO.
SPACE 709
5520 Arch St., Philadelphia 39, Pa.

WHAT PRODUCTS: Telescopic Conveyor,
Gravity Wheel Conveyor

WHO WILL MEET YOU: Robert MacAlister,
Eastern Regional Sales Manager; John J.
McLaughlin, Sales Manager.

WHAT PRODUCTS: Hardwood Pallets



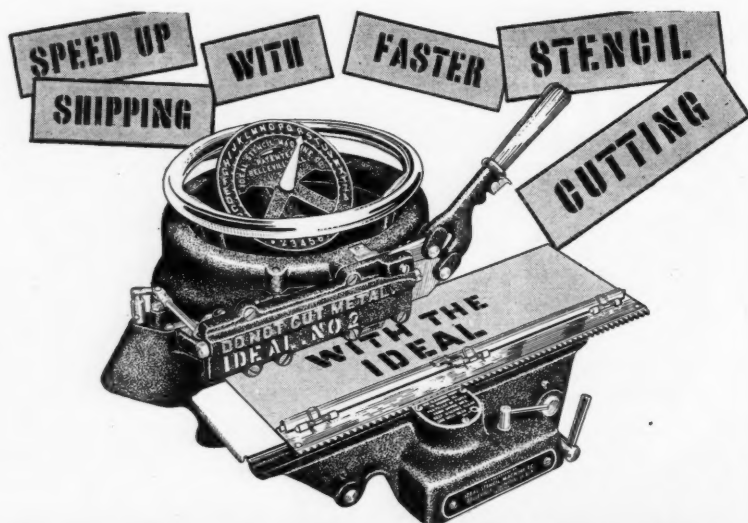
WIREBOUND BOX MANUFACTURERS ASSN.
SPACE 507

105 S. LaSalle St., Chicago, Ill.

WHAT PRODUCTS: Details of construction
of container, along with illustrations of
proper closing and assembling; operating



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- **EASY-TO-FOLLOW POINTER**—Large red-tipped letter indicator.
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- **VISIBLE CUTTING**—No blind guesswork—reduces errors and stencil waste.
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At the end of a line—a flip of the shift lever automatically returns it to the starting point.

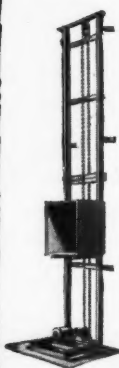
It's ready for the next line—with a slight touch of the automatic thumb lever.

Instead of cumbersome roller movement, the Ideal has rapid carriage action that instantly positions the stencil for each line—no manual "stencil fumbling"—it's all automatic and precise. That's why even the untrained worker can't go wrong with the Ideal Automatic Carriage Action—speed and accuracy come easy to the Ideal operator. Speed up your shipping with the Ideal—only Ideal has Automatic Carriage Action.

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Comes equipped with wall anchors, rails and electrical controls. Special capacities and dimensions built to order.

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model of incline impact test.

WHO WILL MEET YOU: E. P. Gallivan, Assistant Secretary; F. Fisher, Association Staff; J. H. Singer, Miles Durwe, B. E. Davis, T. Shea, F. Ward Ross, H. C. Bulard and H. Egu.

YALE & TOWNE MFG. CO.
SPACE 125-130, inc.

4530 Tacony Ave., Philadelphia, Pa.

WHAT PRODUCTS: Hoists, Lift Trucks, Scales and Accessories



WHO WILL MEET YOU: S. W. Gibb, General Sales Manager; M. G. Peck, Manager Electric Truck Division; C. O. Hedner, Manager Hoist Division; W. G. Tipton, Manager Hand Lift Truck Division; J. D. Young, Manager Scale Division; Chas. T. Schwarz, Field Activities Division; W. K. McGreevy, Charge of Exhibit; F. Gordon Ricker, Pittsburgh Representative; F. X. Vogel, Cleveland Representative.

OMISSIONS. In complete data for some companies is a result of failure of information to reach us before press time. We're sorry.

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YOU**

at
**BOOTH
No. 1**

*during
the show*

Pallets Incorporated

**Manufacturers of
ENGINEERED DESIGN Pallets**
GLEN FALLS, N. Y.

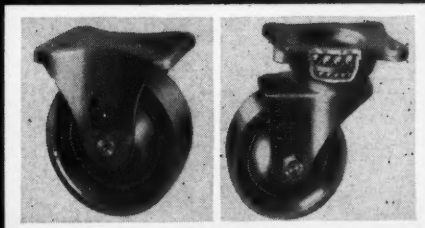
PNEUMATIC BLOCK FORK . . .
(Continued from page 75)

the yard we worked out a table for counting. Suppose a customer's truck pulls in with an order for 650 four-inch blocks. It would be time-consuming if the fork truck operator had to figure out how many cubes it would require to make up the number wanted. Hence we developed a table showing the number of various sizes of blocks in one cube. The table can be carried out

to show the amount of blocks in any number of cubes deemed necessary. Such a table is attached under a plastic covering to the mast of the truck.

The operation of the pneumatic fork requires but little relearning on the part of the operator used to handling a regular fork truck. A certain procedure should be observed in the interest of minimum wear on the pneumatic fork tubes. In spotting a load, the operator should release the air pressure when the cube being lowered is about an

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inch from the ground (or truck bed). In picking off a cube, the operator should lift it slightly first, then throw the compressed air control for inflation of the fork tubes. This procedure will avoid excess friction on the tubing which necessarily results when the load rests solidly on the finger blocks. The compressed air control is on the steering column, and the proper timing becomes second nature with the fork truck operator after a little practice.

In end loading of dump trucks,

where one cube is loaded behind the others longitudinally to the truck (two wide), the following method is used. The fork truck operator spots the first cube on the rear of the delivery vehicle (assuming the absence of a depressed loading dock). When the operator brings the second cube, he abutts it against the first one, which is then pushed to the front of the delivery vehicle by advancing the fork truck, and the second cube is spotted behind the first one.

This is a picture of our operation

with the new pneumatic block fork after six months of continual tests and refinements. As the old handicaps were eliminated one by one we finally reached a stage where we could find no further problem to bring to the attention of the engineer, and we now have two units in operation. Breakage has been virtually eliminated. A skilled operator can load a dump truck with four cubes in five minutes. The delivery truck driver usually resets a few blocks to fill corners, with no additional loading help necessary. A large trailer is loaded with 12 or 14 cubes in 20 to 25 minutes. The pneumatic fork handling operation keeps the larger part of our operation under roof, requiring the fork truck operator as the only man outside. As previously explained, valuable machine hours and man hours are saved because counting has been simplified by use of cube loading and the table.

How do the cubes ride on the stringers or finger blocks when being delivered to the job? This question is important to any block manufacturer, and it was a big point with us because the Geist Coal and Supply Co. trucks deliver to jobs located up to 200 miles from Cleveland. After we had put the method in effect, we decided that the best way would be to follow a truck on a long haul and see for ourselves. The trailer had 14 cubes on it. Several of us observers followed in a car, watching the load closely on grades and turns. After we had followed the load for 40 miles, we were satisfied that the riding characteristic of the cubes was all we expected.

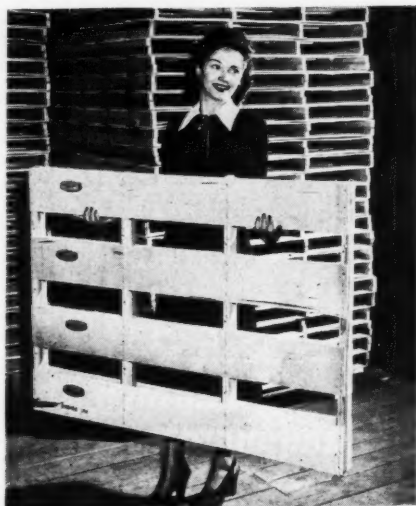
CIRCULAR WAREHOUSE . . .

(Continued from page 58)

house—Travel Miles per Day” indicates the travel on the assembly floor in distributing the daily shipment of merchandise, based on using eight-trailer-tractor trains. For half of the circular warehouse having a floor area of 500,000 square feet, the daily shipment of merchandise was 68,000 cu. ft., the average travel around the assembly floor was 1500 lineal feet and the

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We are proud to present the NEW Wirebound Security Pallet. You will be interested to know that the pallet will do your job for less money than you are now paying, require less storage space and is 2/3 lighter to handle—and because it is light, it saves you money in shipping costs. It is wirebound: for strength, light weight, for lowest possible cost. It is designed for use on any fork lift truck and will support up to 6,000 lbs.

INDIANAPOLIS WIRE BOUND BOX CO.
1300 Beecher St. Indianapolis 7, Indiana

travel per day was 68 miles. For the full circular warehouse having a floor area of 1,000,000 square feet, the daily shipment of merchandise was 136,000 cu. ft., the average travel remained 1500 lineal feet and the travel per day increased in proportion to the volume handled to 136 miles per day.

Compare these conditions with those indicated by the line labeled "Rectangular Warehouse-Travel Miles per day". For a warehouse having a floor area of 500,000 square feet, the daily shipment of merchandise was again assumed as 68,000 cu. ft., the average travel on the assembly floor was 3000 lineal feet and the travel per day was 136 miles. For the rectangular warehouse comparable to the full circular warehouse having a floor area of 1,000,000 square feet, the daily shipment of merchandise was again assumed as 136,000 cu. ft., the average travel distance doubled to 6000 lineal feet, and the travel per day increased four times to 544 miles per day. One-half of the travel distance on the rectangular warehouse assembly floor is unproductive return travel with empty trailers. On the circular assembly floor, the return of empties is always part of a productive trip and never needs to exceed more than one-sixteenth of the circumference.

The chart does not attempt to evaluate any travel saving in the warehouse segments proper, but due to the short distances to be traveled to the mechanical conveyors and also to the fact that empty trucks are returned unattended to the receiving docks, considerable further travel reductions are apparent.

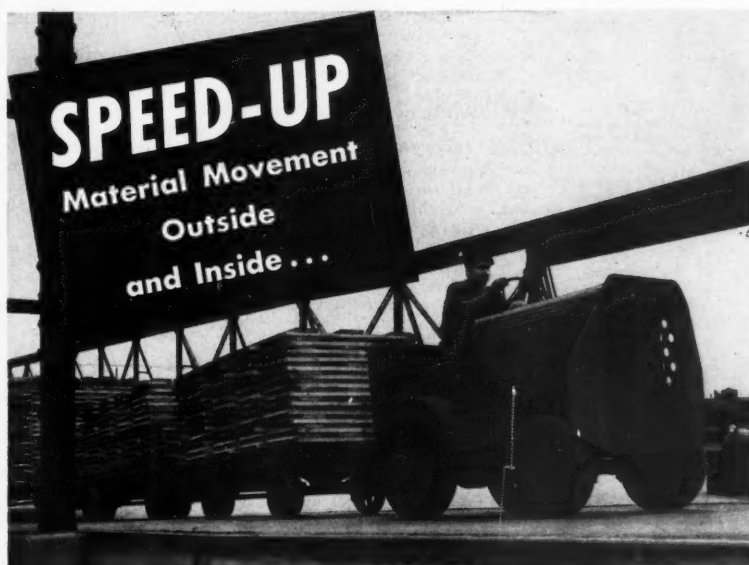
Thus the meat packer's statement, while roughly true as to the 400-miles daily saving in travel distance, did not consider that the graph compared (1) two buildings of the same size, (2) specific types of bulky commodities and (3) the tractor-train movement used in both operations. The packer's large volume of uniformly shaped shipping containers, on the other hand, would doubtless require conveyor movement to a considerable extent. Moreover, large-quantity receipts would not have to be broken down into single-item orders—one of the main reasons for the many

travel miles in the mail order operation. In short, the canned meat products wouldn't have the same distance to travel, and hence the same number of miles could not be saved. The situations are not comparable.

Let us consider the special-purpose warehouse from another viewpoint. During the war the Army and the Navy did a lot of warehouse research. Again, the need was for a specific type of operation: materials received in carlots were re-shipped, usually after short-term

storage, in carlots. For this type of operation, a long rectangular building with rail tracks along both sides was found ideal. Goods were received on one side, shipped on the other. It was strictly a pallet-fork-truck operation and pallet loads usually remained intact. Travel distances were relatively short.

By contrast, in the mail order operation a carlot of plumbing supplies or canoes or extension ladders became hundreds of *single items* ordered per customer. From each carlot, in turn, the items had



Plus-Power and great maneuverability of **SHOP MULE** tractors have earned their title of "America's Most Versatile Industrial Tractor." It's a general purpose unit for almost any size factory, yard, utility or transportation requirement and accommodates numerous equipment adaptations. Powered by International Harvester 30.5 H.P. engine, full pneumatic tired, turning on 90° radius, it's exactly right—and priced right too. Parts and service world-wide.

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PORTABLE POWER
CONVEYORS!



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For faster and more economical handling of all kinds of bulk materials and packaged goods... it's hard to beat Tote-All Conveyors. They're engineered and built to stand up under the toughest usage. They are extremely versatile and easily moved from job to job.

Tote-Alls are built in convenient lengths from 10 ft. to 30 ft. ... gasoline or electric powered. Features include: adjustable mounting to keep engine in level position, variable belt speeds up to 420 fpm, head pulley drive, hydraulic lifting device and other features.

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"Established 1879"

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to be recombined into multi-unit orders. In the armed forces operations the breakdown was frequently from a train load to a car load. If the material is received in carlots and shipped out in carlots, then the circular warehouse doesn't apply. It is a material handling machine for the more complex type of operation indicated.

More Than a Warehouse

So far, I have emphasized what the circular design was not intended to do. I now want to consider some possible applications. The large variety of commodities and the transportation problems mentioned in connection with the circular warehouse are also encountered in other high-volume operations. This would make the design applicable, with some possible modifications, to marine and rail terminals or certain types of LCL houses.

The scheme of the design is flexible, allowing of variations that would fit it to particular problems. As is explained in the section on the layout and flow aspects, the structure can be operated with only one half of the full circle, or eight bays instead of the full 16 that make up the circle.

Aside from warehousing, the design also lends itself to light manufacturing. The moving floor (see other section) between the bays and the order assembly might become the assembly line. The various segments or bays, either eight or all 16 of them, would become the manufacturing areas from which all materials would feed to the central assembly line. And from here to shipping—the hub of the wheel. It seems reasonable to assume that, upon study of certain requirements, the same design would be found applicable to still other operations.

In this connection, I would like to answer some questions that are periodically asked. One is: "How much does it cost to move a ton of material in the circular warehouse?" This brings us back to the specific problem which the design was created to solve—breaking down bulk goods received in large quantities and shipped, after assembly, by truck. In other words, the cost figure would naturally be affected by the complexity of the

operation—the number of moves involved.

At first glance, it would appear that the cost of construction of the circular warehouse would be higher per square foot than the cost of a conventional rectangular building. This need not necessarily be true. The repetitive design of the segmental layout will reduce the overall engineering cost and will also contribute to the reduction of construction costs. A minimum of special steel framing is involved. The circular network of railroads will be as useful during construction to deliver construction materials close to the points of ultimate use as it will be during operation to deliver merchandise close to the points of storage. The actual difference in building costs would be caused by such items as the vehicular tunnel rather than by higher unit costs.

The special requirements of any particular application must be known in detail before any accurate estimate of cost can be prepared. A cost survey may be prepared in which all costs entering into the application are evaluated. Parallel costs should be set up for the two systems being compared.

The following items should be investigated as well as any other special features applying to the particular field being investigated:

1. Capital Investment in Building. 2. Capital Investment in Equipment. 3. Maintenance and Repair. 4. Operating Costs, including:

(a) Cost of Supervision, (b) Cost of Direct Labor, (c) Cost of Services, including Power, etc. 5. Capacity of each System. 6. Provisions for Future Growth.

When these figures have been determined for comparison, it is possible to make a comparison of the cost of handling per ton of merchandise for the two schemes. However, the engineered flow and short travel distance from any point on the periphery to the central shipping area would probably effect economies that may be expected to repay the investment in a shorter time than conservative estimates would allow. Moreover, the prospective operator of such a plant has some latitude in the selection of materials. For example, exterior walls of cement blocks would be

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DROP DOOR PARTS BOX

There are Brusco heavy parts boxes designed to fill any need. Many customers find the Brusco Drop Door Box just the answer to their material handling problem.



Brusco Boxes are fabricated from heavy gauge steel sheets, corrugated for extra strength and reinforced with heavy steel angles. Legs have skid plates for easy moving. Standard sizes:

24 x 24—26½ x 36
36 x 42—30 x 48
36 x 48—36 x 60
Depth 18", 24" or 30"

Boxes equipped with card holders for stock records.

Orders or inquiries should specify quantity, width, length and depth of box desired. Also state underclearance required and estimated weight of load. We are able to fulfill any special requirements.

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BRUMMELER STEEL PRODUCTS CORPORATION

DEPT 25 GRAND RAPIDS, MICH.

lower in cost than walls of an ornate stone. This is merely suggestive. Details of this nature are best considered when the specifications for a structure are reviewed.

Another relevant point concerns the discussion of the design in the school of business administration of a prominent university. The final academic dictum was: The circular warehouse is about two generations ahead of the times. I consider this statement an endorsement. The inference seems justified that if it is "ahead", then it will meet a need later. And, of course, I hold that "later" is now.

Our postwar era is enjoying the benefits of innovations that were until fairly recently "ahead of the times." The application of electronics to induction heating, for example, was ignored until urgent war production needs recognized its value. And induction heating helped shape the weapons of victory.

Similarly, industry today has needs which it did not recognize or appreciate before the war. The segregation of warehousing from

manufacturing is a pertinent example. A manufacturing plant is no longer put up without consideration of finished goods storage. A relatively few years ago storage was "on any convenient floor." Before the Era of Material Handling, few realized how much such haphazard handling practices cost in terms of wasted time, effort and dollars. With today's higher costs and with U.S. production literally bursting at the seams, special-purpose buildings for finished goods storage are now planned as an integral part of a total project.

And, while industry is making a tremendous effort to catch up—with its greater production and with the advanced principles of material handling—the circular warehouse offers a solution to a widespread problem. I mean today, not "later."

Automatic? Designs for Special Needs

Another idea which is sometimes mentioned in connection with the circular warehouse is the "automatic" or push-button type of operation:

you press a button and the goods start flowing. This is difficult to visualize when you consider the highly specialized nature of warehouses, each type with its own peculiar requirements and ramifications. Recall the many requirements set by the mail order company. Then consider how different they would be for a public merchandise warehouse, an LCL freight terminal, a household goods or a cold storage plant.

Talk of the automatic warehouse reminds me of the following story. A lady was showing a woman caller around in her newly built home. In the basement the owner pointed out the thermostatically controlled heating unit. "Is it automatic?" asked the visitor. "No," came the reply. "I have to light it up in the fall and turn it off in the spring." The term "automatic," you see, is partly a question of degree and partly of personal interpretation.

While not "automatic," the circular warehouse is laid out for utmost simplicity and economy of operation. The flow of all materials is by the most direct route radially from receiving-inspection to stock locations and then to shipping in the center of the circle. The details are given in the section "The Circular Layout and How It Works."

NEW ENGLAND CHAPTER

WALTER METCALF, of Stop and Shop, Inc., was elected president of the New England Chapter of The Material Handling Institute at the December meeting which was attended by 126 persons. Other officers named are: James Shields, Saco-Lowell Shops, Biddleford, Me., vice president; Cliff Haddrell, Yale & Towne Mfg. Co., Boston; Robert Abel, of Robert Abel Co., Boston; S. L. Tibbetts, Amoskeag-Lawrence Mills, Manchester, N. H., Norman Cahn-ers, publisher, Modern Materials Handling; Donald Finch, N. Y., N. H. & H. Railroad, Hartford, Conn. The chapter constitution was adopted.

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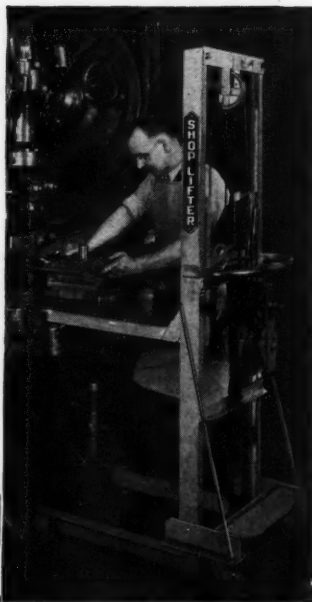
One man can handle heavy dies up to 500 pounds alone. Easily moved about. Also handy for loading and unloading trucks and miscellaneous lifting jobs. Platform 24 in. x 24 in. Lift of platform 4 ft. 6 in. Price \$157.50 (foot operated floor lock optional, \$10.00 extra). Heavier capacities available up to 5000 pounds.

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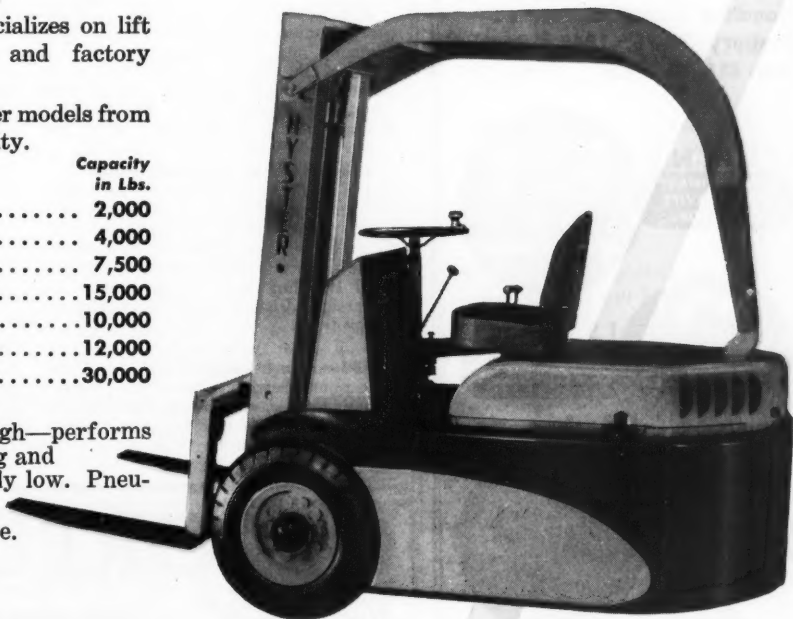
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THREE REASONS FOR BUYING A HYSTER LIFT TRUCK NOW:

1. You can get current delivery.
2. Your Hyster distributor specializes on lift truck service — has parts and factory trained mechanics.
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Model	Capacity in Lbs.
HYSTER "20" FORK TYPE	2,000
HYSTER "40" FORK TYPE	4,000
HYSTER "75" FORK TYPE	7,500
HYSTER "150" FORK TYPE	15,000
HYSTER KARRY KRANE	10,000
HYSTER "M" STRADDLE TRUCK	12,000
HYSTER "MH" STRADDLE TRUCK	30,000

Hyster moves fast—stacks high—performs surely and smoothly. Operating and maintenance costs are extremely low. Pneumatic tires save floors, are easier on load, can go anywhere.



HYSTER COMPANY

THREE FACTORIES

2931 N.E. CLACKAMAS ST., PORTLAND 8, OREGON
1831 NORTH ADAMS STREET, PEORIA 1, ILLINOIS
1031 MEYERS STREET, DANVILLE, ILLINOIS



See all Hyster models
at Booth 319 and 331,
Materials Handling Show,
Cleveland Auditorium,
January 12-16.

HYSTER "40" — 4000 pounds
capacity. Handles 7 out of 10
materials handling jobs. Fast.
High lift. Heavy duty car loader.

SEE YOUR HYSTER DISTRIBUTOR FOR CURRENT DELIVERY

ALASKA—Northern Commercial Co.
BROOKLYN, N. Y.—A. S. Rampell
BUFFALO, N. Y.
Rapids Handling Equipment Co.
CALGARY, ALTA.
A. R. Williams Machy. Western, Ltd.
CHICAGO, ILL.—Hyster Company
CINCINNATI, O.
Oral T. Carter & Associates
CLEVELAND, O.—Morrison Company
DALLAS, TEX.—C. H. Collier Co.
DENVER, COLO.—Paul Fitzgerald
DETROIT, MICH.—Bentley & Hyde
GRAND RAPIDS, MICH.
Bentley & Hyde
HALIFAX, NOVA SCOTIA
A. R. Williams Machy. Co., Ltd.

HONOLULU, T. H.—Electric Steel Foundry Co.
INDIANAPOLIS, IND.—Central Rubber & Supply Co.
JACKSONVILLE, FLA.—L. S. Teague Equipment Co.
KANSAS CITY, MO.—Industrial Power Equipment Co.
LOS ANGELES, CALIF.—Hyster Company
LOUISVILLE, KY.—Embry Brothers, Inc.
MILWAUKEE, WIS.—Hyster Company
MINNEAPOLIS, MINN.—W. S. Nott Company
MOBILE, ALA.—S & T Equipment Co., Inc.
MONTREAL, P. Q.—A. R. Williams Machy. Co., Ltd.
NEW ORLEANS, LA.—Hyster Company of Louisiana, Inc.
NEW ROCHELLE, N. Y.—Eastern Industrial Sales Co.
OTTAWA, ONT.—A. R. Williams Machy. Co., Ltd.
PHILADELPHIA, PA.
Rapids Handling Equipment Co. of Phila., Inc.

PHOENIX, ARIZ.—Equipment Sales Company
PITTSBURGH, PA.—Equipco Sales Company
PORTLAND, ORE.—Hyster Sales Company
ST. JOHNS, N. F.—City Service Company, Ltd.
ST. LOUIS, MO.—Wharton L. Peters
SALT LAKE CITY, UTAH—Arnold Machinery Co.
SAN FRANCISCO, CALIF.—Hyster Company
SEATTLE, WASH.—Hyster Company
TORONTO, ONT.—A. R. Williams Machy. Co., Ltd.
VANCOUVER, B.C.
A. R. Williams Machy. Western, Ltd.
VICTORIA, B.C.—A. R. Williams Machy. Western, Ltd.
WINNIPEG, MAN.
A. R. Williams Machy. Western, Ltd.
YUKON TERRITORY—Northern Commercial Co.

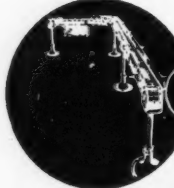
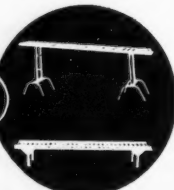
In addition to above, Hyster Export Dealers are located in 30 foreign countries.

A Complete Line of **ISLAND** CONVEYING EQUIPMENT

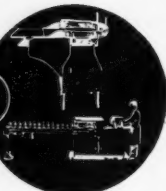
Be Sure To See

All regular types of Island Conveying and Material Handling Equipment on display and operating at the **Materials Handling Exhibit, Cleveland—January 12-16, 1948. Booth Nos. 618, 619, 620.**

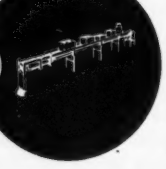
ISLAND
LIGHT & HEAVY
DUTY GRAVITY
CONVEYORS



ISLAND
BOTTLE, JAR AND
CAN CONVEYORS



ISLAND
ACCUMULATING
TABLES



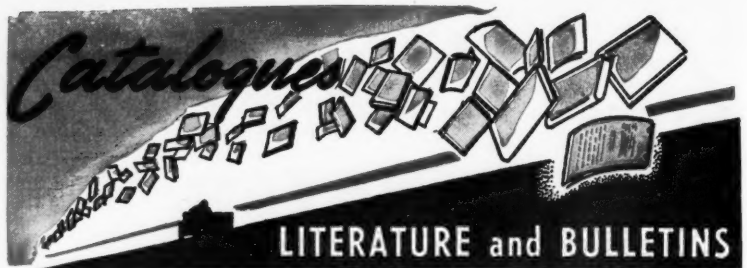
ISLAND
MEDIUM DUTY
HORIZONTAL INCLINE
BELT CONVEYORS

Each a
Masterpiece

Write for complete details on equipment
that interests you.

**ISLAND
EQUIPMENT CORP.**

101 Park Ave., New York 17, N. Y.



LITERATURE and BULLETINS

The publications featured on these pages were written by experts. They are **FREE** publications. To obtain these use the postcard bound into this issue.

422—Production Control . . . Realistic planning, efficient machine loading, minimum inventory investment, full utilization of facilities are the objectives of the methods described in a new 42-page book, "Production Control with Punched-Card Methods", issued by Remington Rand, Inc.

423—Material Handling News . . . How a single basic tool, the versatile fork-lift truck, can be given a far broader usefulness by means of interchangeable attachments for special handling assignments, is the subject of the current issue of Material Handling News, recently issued by Tractor Division of Clark Equipment Company.

424—Membership Roster . . . A new 30-page membership roster of the Material Handling Assoc. of Southern California for the fiscal year 1947-1948 has been released. It contains, in addition to an alphabetical

section listing the member firms along with the companies they represent, a "Product Classification" section which provides a valuable and useful source of buying information to those interested in material handling equipment.

425—Vertical Transportation . . . The Otis Elevator Co. has issued a new 12-page booklet describing its free Vertical Transportation Engineering and Planning Service. Architects and engineers throughout the nation have used this service over a period of many years on thousands of jobs.

426—Freight Handling . . . How the Missouri Pacific Railroad Co. in Kansas City uses Rapid-Wheel gravity conveyor in handling freight sorting is described in a single page, one-color bulletin issued by The Rapids-Standard Co., Inc. Photographs show how this equipment is used to transfer

OPPORTUNITIES

Men wanted Jobs wanted Lines available

Rates: for "Positions Wanted" \$3.50 minimum, limit 25 words. For all other classifications \$3.50 minimum for 25 words, each additional word 10c; bold-face type or all capitals, \$6.00 minimum for 25 words, each additional word 15c; limit 50 words. Box addresses count as five words. All insertions are payable in advance.

FOR SALE

For Sale: One Economy power drum lifter and dumper, in perfect condition.

Architectural Tiling Company, Inc.
101 Park Avenue
New York City

About 300 36" x 48" double face 4-way plywood pallets with 1/2" decks and 2" high plywood block posts, weight 37 lbs., well made, best quality material, suitable handling light loads. Made up through error and offered at a quick sale price. Box 12147, FLOW.

COMPLETE SPRAY PAINTING SET-UP

INCLUDES WATER WASH (SPRAY) TANKS (2), PRE-HEAT OVEN, 2 SPRAY BOOTHS COMPLETELY EQUIPPED, 2 DRYING OVENS

WITH CHAIN, TRACK AND BEAM FRAME. OVERALL SIZE APPROX. 25x35 FT.

BUY AT YOUR OWN PRICE
1/2 COST

OTTAWA STEEL & MFG. CO., INC.
1052 OTTAWA, N. W.
GRAND RAPIDS 5, MICHIGAN
PHONE 6-8553

REPRESENTATIVES WANTED

MATERIAL HANDLING SALES ENGINEERS. Unusual opportunity to act as Regional Managers of Sales leading Industrial Electric Trucks and Conveyor systems. Exclusive protected Southern Milwaukee and Wisconsin territory open. Strictly commission proposition. Established business with some stock and complete Service facilities. Box 12247, FLOW.

Wanted: Large pallet wholesaler to take all or part production of modern pallet plant located in south. Capacity 10 carloads per week of nailed or bolted pallets, constructed of dry tough textured hardwoods. All deck boards drilled for nailing.

Box 516, Marksville, Louisiana

volume type shipments from trucks into the warehouse, where the packages are sorted according to destination.

427—Barrel Truck . . . A four-page brochure describing its "Float-Away" barrel and drum trucks has been issued by Dico Mfg. Co. Included are photographs, specifications and descriptions of the various types of drum and barrel handling devices.

428—Belt Conveyors . . . Specifications and descriptions of custom engineered belt conveyors are included in a four-page brochure issued by Coburn-Foster Conveyor Co., Inc. Described in the pages are adaptability, construction, speeds, loads and costs.

429—Fire Doors . . . A 16-page two-color catalog of doors for freight elevators, warehouses, industrial plants and dumbwaiters has been issued by Security Fire Door Co. It shows typical installations of manually and electrically operated elevator and industrial doors which contribute to increased efficiency of production and distribution flow.

430—Die Lifts . . . Specifications of the Di-Lift are included in a four-page brochure issued by Montgomery and Co. The tables can be used for moving and lifting dies, supporting overhanging work or for a portable work bench.

431—Monorail Tractor . . . Detroit Hoist and Machine Co. has issued a brochure describing the advantages of its Trojan Tractor, designed for overhead hauling along a monorail track.

432—Belt Cutter . . . Construction and operation of its wide belt cutter is described in a bulletin issued by Flexible Steel Lacing Co.

433—Special Service Truck . . . Specifications and engineering features of its new truck are outlined in a six-page folder issued by Milford Crane and Machine Co. The vehicle is designed for mounting of winches and cranes for use by various industries.

434—Hydraulic Portable Table . . . A four-page folder discussing Hydraulic Portable Table for shop use, released by Midwest Tool and Engineering Co. Application photos show various ways in which the equipment can be used.

435—Cargo Handling Hose . . . A new catalog section on oil hose for cargo handling has been published by The B. F. Goodrich. The combination suction and discharge hose types described include dock loading, sea loading and hose for barge service. Data on each type as well as fittings are included.

436—Intercommunication System . . . A new booklet, "Sound . . . a Modern Control System" is offered by Executone, Inc. It describes how voice paging controls loss of productive time, overhead cost and operating expense. Illustrations show how the sound system coordinates location of personnel, speeds repairs and maintenance, dispatches material handling equipment, etc.

437—Portable Stock Racks . . . Equipment Mfg., Inc., has issued a four-page brochure describing the Portable

Stock Rack, an adjustable method of handling material from fabrication through storage to final assembly. "Hidden savings in operation" and "obvious savings in storage" are stressed in the pages on this space conserving system.

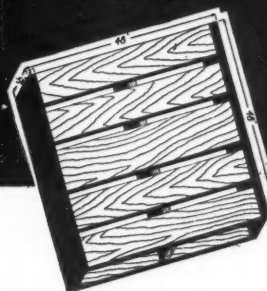
438—Conveyor Systems . . . An eight-page brochure, its central theme a condensation of a FLOW article, "From Beginning to End", is now available from Allied Steel and Conveyors, Inc. In addition to the article, it shows typical installations of overhead and other types of conveyors, including automatic salvage systems.

439—Scales . . . "Better Ways," a 12-page folder issued by Toledo Scale Co., illustrates applications of its products in various industries. It stresses that "the right scale on the job may mean the difference between loss and profit."

440—Lightweight Lift Truck . . . Transiter Truck Co. has released a four-page folder describing in detail the features and specifications of a new lightweight lift truck. It is said to be useful on restricted upper floors, elevators, inside truck van bodies and over relatively soft surfaces.

441—Industrial Containers . . . A six-page illustrated folder has been announced for distribution by G. B. Lewis Co. It describes numerous applications, of skid boxes, wood-and-wire stacking boxes, shipping boxes, box trucks and stacking boxes.

PREMIUM QUALITY PALLET



Made of sound mixed Northern Hardwoods. We drill all boards before nailing to prevent splitting. Hand driven c.c. #6½" drive screw nails.

PREMIUM PALLETs are hailed by industry in general as the outstanding pallet value on today's market.

Quotations submitted upon request without obligation. Write today for further information.

"When better pallets are constructed, we will build them."

PREMIUM HARDWOOD
PALLET MFG. COMPANY

DANIELSON, CONNECTICUT

CASTERS!



Semi-steel castings with light-alloy, rubber-tired or metal wheels... Swivel assembly has double-ball race... Grease gun fitting on both swivel and wheel... 4", 6" or 8" wheels available.

HUTTON WHEEL CORP.

2122 WALNUT ST. • ST. LOUIS 3, MO.



The
"LITTLE HUSTLER"
TRANSFERS STAMPINGS,
AS FAST AS PRODUCED!

The "Little Hustler" is fully portable and quickly adjustable to a wide range of applications. The 8 foot size shown above has a maximum delivery height of 81 inches at 45° and 50 inches in a horizontal position. Made in 13 models: 4-6-8-10 and 12 ft. long, by 12", 18" or 24" wide. Also special sizes. Send for circular LHC. We design and manufacture permanent conveyor systems and all types of SPECIAL EQUIPMENT.

MAY-TRAN
ENGINEERING, INC.

Development Engineering and Manufacturing
1710 Clarkstone Rd. Cleveland - Ohio

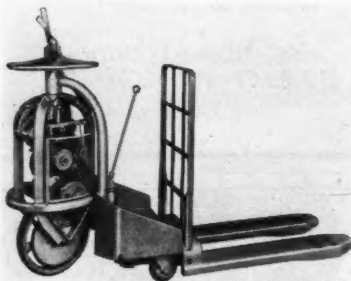
NEW PRODUCTS AT SHOW ...

(Continued from page 63)

rates the features previously introduced on Automatic's Skylift—the Newmatic controller, functioning as the electric counterpart of automotive automatic gearshift; a high-pressure hydraulic system, and silicone varnish insulation and lubrication. With a standard collapsed height of 83 inches, the four, five and six-thousand pound models of the Brawny will lift to 124 inches while the seven and eight thousand pound models lift to 115 inches. The Brawny can tier under ceilings as low as 84 inches, because of its hydraulic lift with telescopic action. Forks and uprights are raised independently by separate rams, the forks raising to 62½ inches before the uprights begin to extend.

PALLET TRANSPORTER

SCHWITZER-CUMMINS CO. is exhibiting for the first time its Pallet Transporter, a 3000-pound hydraulic

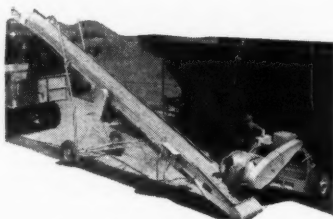


lift truck. It is designed for moving pallet loads through narrow aisles and around sharp corners. The equipment is operated by a single lever—moving at one end of its throw and disengaging power and setting brakes at the other end. The power unit turns completely around for steering purposes. It can be reversed either forward or backward or pointed to the side by turning the steering wheel. The power unit is without a transmission, reverse gear, clutch, battery and radiator. It can be operated as slowly as one mile per hour. Forks are operated hydraulically by stepping on foot release valve.

HOPPER-CAR UNLOADERS

BARBER-GREENE CO. is announcing the development of two new units for facilitating the unloading of stone, sand, gravel and all bulk materials from hopper cars. These units consist of a new type heavy-duty car unloader called the "358," which has a capacity range of up to three tons per minute operating in pits or above rails; and for working with the 358 is the new 363 stockpiler-loader. The 358 unloader has a chain and belt conveyor. Chain and belt are riveted together by means of steel attachments and cleats; power is transmitted through chain and belt to give posi-

tive belt movement. The 363 stockpiler-loader is completely new in design. Its stair-channel frame is strong and rigid; simple swiveling wheels



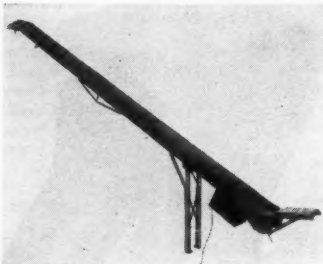
make it flexible for unloading and stock-piling service. It is available with plain or cleated belts, two precision gear reducers and a shaft drive to the head pulley. Three-unit belt carriers mounted on welded steel bases trough the belt and are designed to minimize belt wear. Anti-friction bearings are used. The tail pulley cover plate is removable, as also are the hopper plates. It also has a new type of gasoline or electric motor mounting for low center of gravity and is available in a belt width of 24 inches, and in lengths of 25, 30 and 35 feet.

3500-POUND FORK TRUCK

THE Moto-True Co. has announced a new addition—the Silver Queen—to its line. It is a 3500-pound capacity high lift fork truck without a counter balance and weighs 2500 pounds. It is scheduled for first showing at the exposition.

BELT CONVEYORS

A NEW standardized multi-purpose power belt conveyor, the Floor-Veyor, Jr., is announced by the Rapids-



Standard Co., Inc. It is designed for moving medium weight loads between floors or horizontally, and supplements the regular heavy-duty standard Floor-Veyor power belt conveyor. Built in lengths which are multiples of 2½ feet up to 30 feet, the new Floor-Veyor, Jr. may be remodeled by addition or removal of standardized sections of conveyor bed and lengthening or shortening of the belt. It is formed with provisions for attaching legs, ceiling supports, and accessories such as guard rails or sorting tables when used horizontally. Units over 11 feet in length are built in two sections, and units over 21 feet in length are built in three sections. Trussing is supplied with all units over 16 feet in length to provide additional strength at the

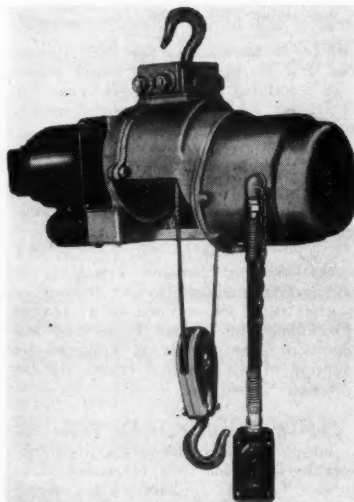
joints. The conveyor may be operated with motor at either end of the frame, in the elevated or horizontal positions. A 1/3 or ¼ H.P. electric motor, mounted in a formed steel protective motor box, provides the power to drive the 3-ply, 28-ounce canvas duck, rubber covered "Ruff-Top" belt at a speed of 65 feet or 94 feet per minute respectively.

ELECTRIC STENCILER

THE Marsh Stencil Machine Co. is introducing its new Electric Stencil Machine. The equipment cuts stencils in oiled stencil board or plain cardboard for marking stencil addresses on goods. It is made in three character sizes: ½" - ¾" - 1". Power is supplied by a standard 1/6 h.p. motor, which can be plugged into any light socket. Character selection is by use of light weight alloy hand wheel and rotating parts.

WIRE-ROPE HOIST

THE Yale & Towne Mfg. Co. will feature a new line of low-capacity, wire rope hoists. The new light duty hoist will be known as the "Load King," and will be available in ¼, ½, ¾ and 1-ton capacities. The main



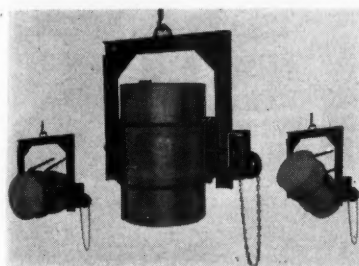
hoist frame is a heavy, one-piece, ribbed-steel casting, constructed for use with hook, lug, plain trolley, motor trolley, or winch-type mountings. The large diameter drum, with machine cut grooves for guiding the cable as it winds, has sufficient capacity to provide for full standard lift without overlapping of cable. An upper-limit stop prevents over-travel of the load block in hoisting operations.

EXTENDED NOSE TRUCK

AMERICAN PULLEY CO. will exhibit its new Hand Truck with Extended Nose for use when handling light bulky cargo. The entire frame is blanked and formed from a single piece of sheet steel. Standard nose is five inches but an eight-inch nose is available. Extension nose is 22 inches. When not in use, the extension folds into the body of the truck between the side rails. It is hinged to the lower end of the side rails.

DRUM AND BARREL TILT

A NEW drum and barrel tilt has been produced by the Palmer-Shille Co. It is designed for controlled dumping of chemicals, liquids, plas-



tics, molding powder, scrap, glass, etc. The unit illustrated has a 1000-pound capacity for standard 55-gallon drum or barrel. Special sizes or capacities can be built to suit individual requirements. The device is equipped with two safety type locking devices that hold barrel securely without slippage. The barrel can be turned 360 degrees and locked in any position. Turning mechanism incorporates the worm drive principle and is available in motor driven or hand chain models. The entire assembly is constructed of heavy structural steel, completely welded throughout and weighs approximately 125 pounds.

DISH TRUCK

A NEW truck, designed for movement of dishes, will be featured by Nutting Truck and Caster Co. It

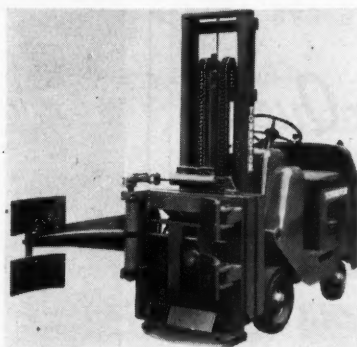


has two soldered water-tight trays with hinged lifting handles at both ends. The truck is equipped with rubber hand grip and rubber bumpers. Wheels and casters have roller bearings and demountable rubber tires.

ROLL-GRIP ATTACHMENT

A COMBINATION roll-grip and up-ender attachment for fork lift trucks, for handling of heavy cylindrical loads, has been designed by Towmotor Corp. The combination attachment was developed for picking up and stacking 1500-pound rolls of paper of varying lengths and diameters. It has a vise-like pair of curved arms

which hold the load firmly. One arm of the roll-grip is stationary, the other,



hydraulically operated, closes against the roll, holding the load in any position required for traveling or stacking operations.

MEN IN THE NEWS . . .

(Continued from page 85)

He was transferred to Schenectady Works in 1943 as assistant to the works manager.

ARTHUR NIKAND has been named factory manager of the Portland plant of Hyster Co. He was first employed as a machinist at Hyster in 1934. Four years later he became foreman of hoist equipment assembly and assistant factory manager the next year.



Arthur Nikand

JAMES H. SPENCE has been appointed Sales Promotion Manager of Mobilift Corp., of Portland, Ore. He will make his headquarters in the company's main plant and will be in charge of all national sales, having direct supervision over the firm's sales forces in its four factory branches in Chicago, New York, Atlanta and San Francisco.



J. H. Spence

V. R. BILLINGS has been appointed advertising and sales promotion manager for the industrial material handling department

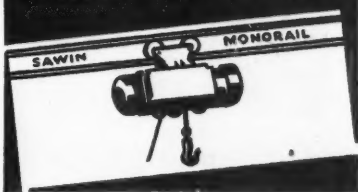
of Conco Engineering Works, Mendota, Ill. For the past two years, he served as sales engineer of material handling equipment for Consolidated Sales Co., in the Kansas City Territory.

I. W. PREETORIUS who has been associated with General Box Company since its organization retired as vice president and general traffic manager, December 31, 1947. Nels E. Wikstrom, who has been assistant to Preetorius for the past seven years, will succeed him as general traffic manager.

Preetorius will continue his activity in the traffic field. He will open his office as freight traffic counsel, Civic Opera Building, 20 North Wacker Drive in January, 1948.

PETER GROUSTRA, formerly district sales engineer for Link-Belt Co., in Detroit, has been appointed district sales manager in charge of the new office in Grand Rapids, Mich. He will be assisted by Herbert E. Wolf, who has been a member of the staff of the Link-Belt Ewart plant in Indianapolis.

SAWIN MONORAIL AND CRANE SYSTEMS



Easy and efficient handling of materials by Sawin Monorail and Crane Systems pays for itself when you move loads thru the air. Nothing can beat this method of dispatching loads around where the going is tight. No waste of skilled hands for "time out"—the Sawin Monorail and Crane Systems do all the work.

Sawin factory trained mechanics available for all erection in New England.

No charge for layouts, alteration, millwrights . . . all work fully insured.

SAWIN MACHINERY CO.
12 DENSMORE STREET
NO. QUINCY 71, MASS.

See the "Silver Queen" THE MYSTERY TRUCK

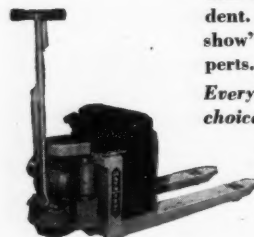


at NATIONAL MATERIALS HANDLING
EXPOSITION, Cleveland, Jan. 12-16
Booth 318

A new, amazingly different motorized hand lift truck, the sixth outstanding type originated by MOTO-TRUC, will have its premier showing.

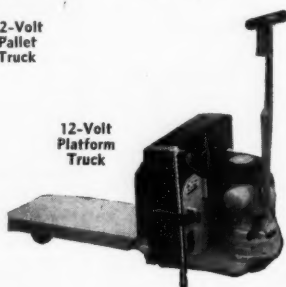
The advantages of this truck are evident. They will be the "talk of the show" among materials handling experts.

Everywhere MOTO-TRUCS are the choice of those who compare.



12-Volt
Pallet
Truck

GET ALL THE DETAILS of complete MOTO-TRUC line. Write for 8-page Bulletin No. 47-A.



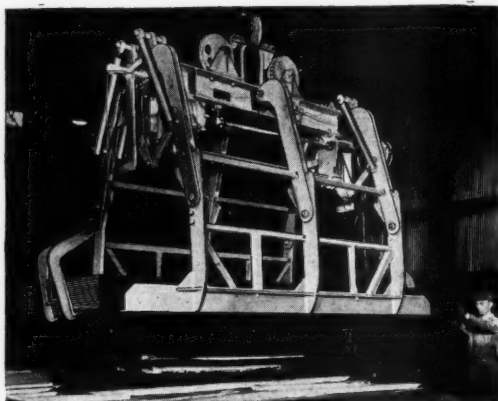
12-Volt
Platform
Truck

MOTO-TRUC

Originators of
MOTORIZED
HAND
LIFT TRUCKS

The MOTO-TRUC Co.
1953 East 59th St.
Cleveland 3, Ohio

Representatives in all sections of
United States and Canada.



You can produce only as much as you can handle

WHEN you use C-F Sheet Lifters to load, carry and unload loose or bundled sheets in and out of storage, you keep no machine or operator idle, waiting for material.

C-F Lifters provide a faster, safer and more economical method of handling sheet stock because they carry more sheets per load, have a tong action that grips loads tightly, preventing stock slippage or sag, yet design features such as wide bearing surfaces give full protection to stock edges. One man end or remote cab control keeps operator away from sides—stock can be loaded or unloaded in close quarters with resulting savings in storage room.

Jaw controlling mechanism provides infinite adjustments from minimum to maximum widths. Control is fast, positive. C-F Lifters have standard and optional equipment that will exactly meet any materials handling requirements you may have. Lifters are available in capacities from 2 to 60 tons or larger, in standard or semi-special designs. Write for new illustrated Bulletin—just off the press.

CULLEN-FRIESTEDT CO.

1320 S. Kilbourn Ave.,

Chicago 23, Ill.

WEHLE ELEVATOR CONVEYOR

Pays for itself in Labor Savings

NOW—A FAST SAFE INEXPENSIVE way of
moving merchandise from floor to floor

NO RUBBER OR
CANVAS BELTS

For Stores, Warehouses
and Factories

MODEL A

- SPEEDS cartons or boxes from floor to floor — up by power, down by gravity.
- GRAVITY SPEED controlled by angle of installation and length of conveyor. Will operate from 25 to 45 degree angle.
- LOAD CAPACITY up to 500 pounds. Will move merchandise 8" to 24" wide and any reasonable height and length.
- ANY CEILING HEIGHT up to 16 feet.
- APPROXIMATE SPEED 50 running ft. per minute ascending, 100 ft. per minute descending.
- EQUIPPED with 1/4 H. P. motor.
- DESIGNED to engineering standards.
- RUGGED—Built for years of service.

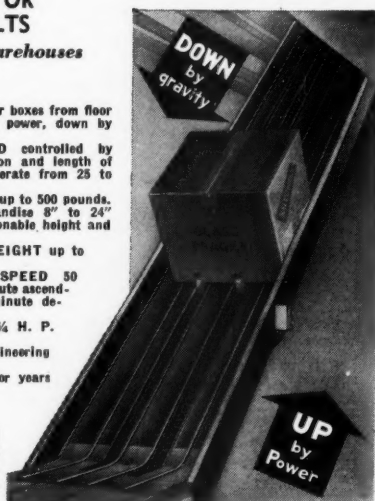
MODEL B

- WHERE space is limited and merchandise is very fragile or not in suitable cartons. Model B conveyor can be supplied to operate up by power and down by gravity.

LOW COST Installation—Operation—Maintenance
WRITE OR WIRE FOR FURTHER INFORMATION

WEHLE CONVEYOR CO.

201-203 WATER ST., BINGHAMTON, N. Y.



So light and strong you'd hardly believe it!

MAGCOA

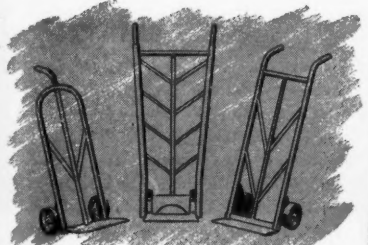
Materials Handling Equipment

*Made of
Magnesium*



● LIGHT WEIGHT MAGCOA DOCKBOARDS

Engineered and reinforced like a bridge to bear extremely heavy loads. Available in varying sizes and capacities to meet your individual requirements.



● LIGHT WEIGHT MAGCOA HAND TRUCKS

All-welded magnesium tubular construction—rubber tired, ball bearing wheels. Available in three popular sizes.



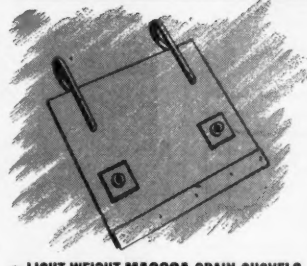
● LIGHT WEIGHT MAGCOA BARREL SKIDS

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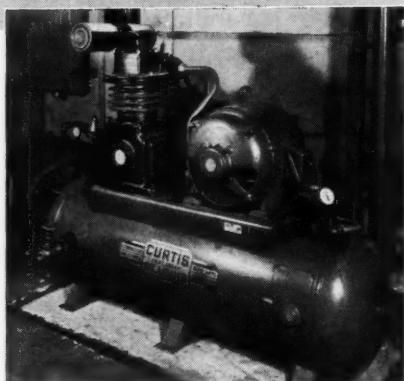
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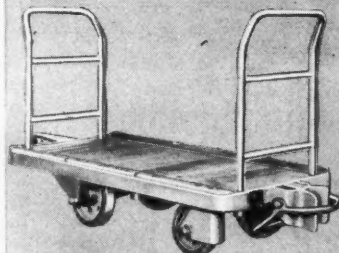
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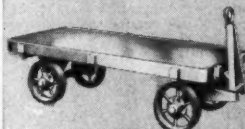
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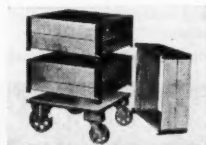
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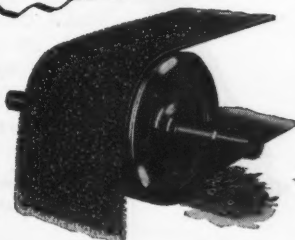
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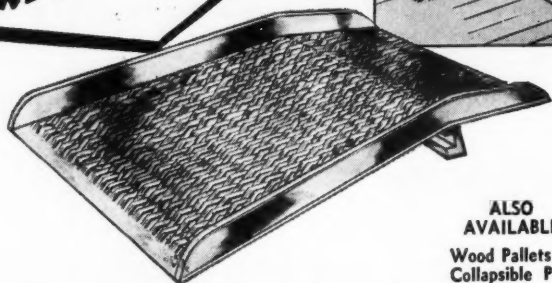
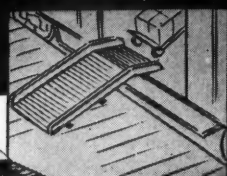
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Wood Pallets
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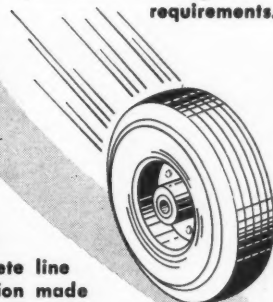
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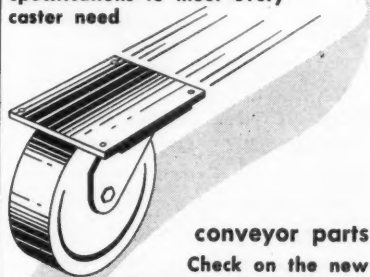
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WOOD NESTING RINGS ON WOOD SKIDS OR PLATFORM

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One to Two Weeks

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Hardwood, metal armored, built to customers' specifications.

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**Push Truck
Metal Bound**

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the **COMPLETE LINE**
of INDUSTRIAL CASTERS

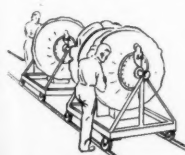
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Saves man-power
handling trucks.

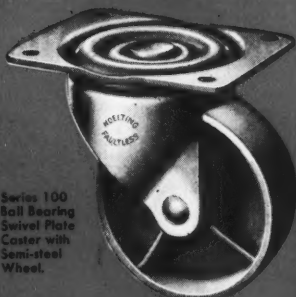


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And all the engineering "know-how" from over half a century of specialized experience is yours in Faultless Industrial Casters—to speed production lines, trucks, portable equipment... with less time, noise, effort.

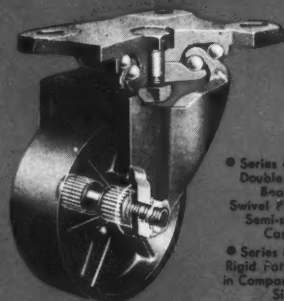
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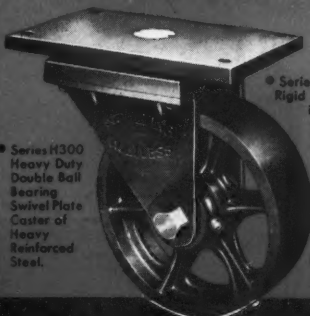
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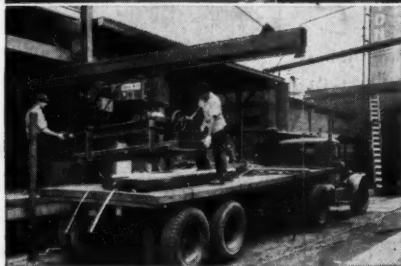
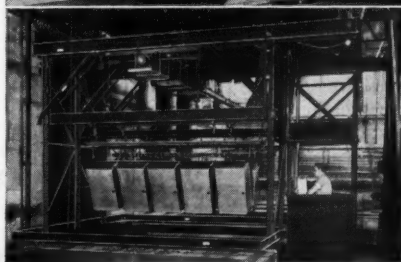
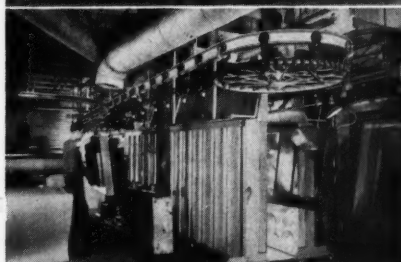
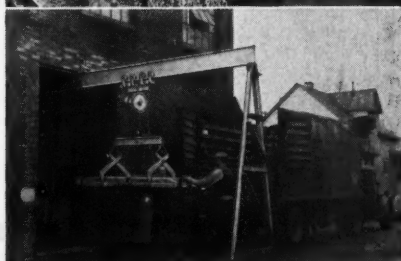
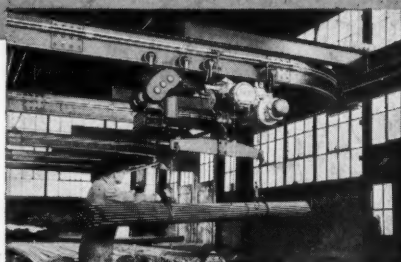
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Unloads truck with 26 less man hours.

Operators claim to save \$20 per truck over former unloading costs. With power operated equipment and special grab for handling 2-ton loads, complete safety is assured.

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